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**Annual Report on
THE MEDICAL SERVICES
for the year 1951-52**

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FOREWORD

This is the first Annual Report of the Medical Department since I took office as the Minister of Social Services, and I am glad to have this opportunity of commending the great and important work which is being done by our Medical and Health Services.

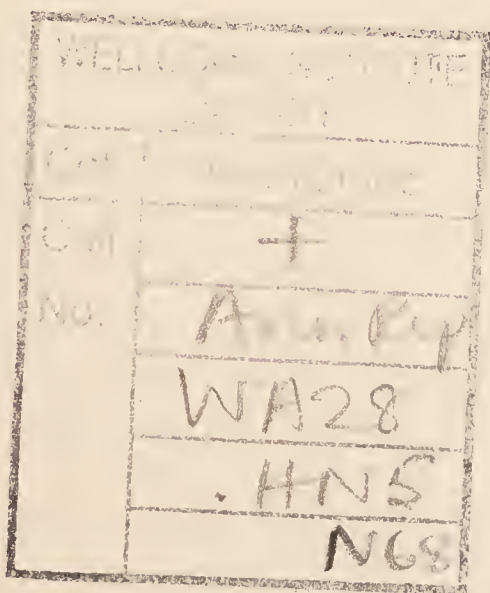
The Inspector-General has given us here a wealth of interesting information showing that, despite very severe limitations imposed by the shortage of professional and trained men and of financial resources, the manifold problems arising from Government's duty to maintain and improve the health of Nigeria's thirty million people are being tackled with energy and determination.

He has shown also that the fundamental aims of Medical and Health policy described in the introduction cannot be fully achieved without co-operative efforts in the fields of medicine, agriculture and education, leading ultimately to a much fuller measure of co-operation with the ordinary citizen of Nigeria.

This report will, I hope, prove of value not only to medical men and others interested from a professional view but to everyone who has at heart the progress and development of this country.

Lagos, Nigeria, August 1953.

S. KASHIM,
Minister of Social Services





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Annual Report on the Medical Services, 1951-52

INTRODUCTION

The administrative decentralisation of the Department of Medical Services which began in 1947 with the creation of Regional Deputy Directorates has now been carried under the New Constitution much further towards fuller regional autonomy. With certain exceptions, public health in all its aspects is now the responsibility of each of the three individual Regions, with a Regional Director responsible through a Minister of Public Health to the Regional Executive Council. These exceptions, which involve major over-all national interests such as maintenance of health records and of specialist organisations and services, the central medical stores, certain central training schools and other units, research schemes, international obligations, recruitment of senior personnel, and so forth, remain the responsibility of the former Central Director, now called the Inspector-General. The principal functions of the Inspector-General are less executive than concerned with co-ordination, advice, and inspection, though his administrative duties are still numerous and important. He is, through the Central Minister of Social Services, responsible to the Central Government for the above functions and for carrying out the directions of the Council of Ministers on matters of general medical policy. The present organisational structure of the Department will be described under the section on Administration.

2. Though the New Constitution with its increased emphasis on decentralisation and regional autonomy came into force only towards the end of the year, there are already signs that its inauguration will lead in the Regions to much increased initiative and progress in medical activities which will only be limited by the availability of funds and staff. Indeed, by reason of this limitation, several of our Development projects have again had to be postponed or deleted. Nevertheless, the most note-worthy development has been the vigour and enthusiasm with which the Regional Ministers have begun to make full use of their Medical Advisory Boards and to formulate plans for increasing and improving their medical services. For example, the Western Region Government has already embarked on the preparation of a comprehensive public health policy which, among various other proposals, will include a scheme for free medical service for school children, whilst in the Eastern Region a scheme for the inauguration of a Local Government Medical Service with the establishment of a series of small cottage hospitals in the rural areas as its basis is already under discussion.

3. The re-organisation of the rural health services was one of the main problems to which the Department addressed itself during the year. In this connection it might be appropriate here to quote an extract from a speech by the present Inspector-General (then Director) of Medical Services at the Budget Meeting of the old Legislative Council in March 1951 on Medical Policy. He declared :—

“.....the fundamentals of medical policy will and must remain broadly the same—a policy double-streamed but convergent and complementary, providing the best possible facilities for the cure of disease on the one hand and for its prevention on the other. The very exiguousness of those facilities in this country at present makes it all the more imperative that we should place the greater premium on the latter aspect of our problem, *i.e.*, on the prevention of disease.

However, whatever the relative emphasis may be, the fact remains that we must keep before us the fundamental fact that the economy of this country ultimately depends on the good health of its teeming agricultural population. The debt which we owe to this section of our population is incalculable and the preservation and maintenance of its health must be our first care. It is incumbent on us, therefore, to carry the benefits of modern medicine—if I may so put it—into the jungle : into the creeks : into the rural areas : to the peasants and the farmers in their hamlets and villages : to the millions of our people in the North and in the South who live remote from hospitals and urban sanitation. We must carry those benefits to these people in the fullest measure possible, and we must provide them with those benefits free or at minimal cost.”

4. To carry out this policy, with its major emphasis on improvement in rural health, a scheme to inaugurate a comprehensive Rural Health Service was formulated early in the year, the purpose of which is to co-ordinate, integrate, and expand the existing rural health services which consist of chains of dispensaries, maternity and child welfare clinics, rural health centres, ambulance services, mobile field units, the leprosy and sleeping sickness services and so forth, in order the more effectively to serve the principal purpose for which they were first organised twenty years ago and which various factors—mainly financial and lack of adequate supervisory staff—had hitherto made it difficult for them to achieve, namely—the *prevention* of disease among Nigeria’s overwhelmingly rural population. The fundamental principles on which the scheme is based are the development of health consciousness and education at the village level ; the collaboration and support of local authorities through their health committees ; the inauguration of a preliminary pilot scheme in each Region ; and lastly, and very important, the provision and training of an adequate staff, particularly a supervisory staff of Rural Medical Officers. At central headquarters, a Specialist Epidemiologist was appointed as Adviser on Rural Health to co-ordinate all regional rural health activities. The full implementation of the plan, particularly the pilot schemes, has unfortunately not yet been achieved owing to lack of Rural Medical Officers in adequate numbers ; but there can be no doubt that, when fully organised, the young Rural Health Service will play a most important part in achieving the ultimate aim of declared medical policy.

5. Continued staff difficulties aggravated particularly by shortage of housing accommodation in all Regions must again be recorded on the debit side of our balance sheet. The housing situation was at one time so acute that it was found necessary to call attention to the effect it was producing not only on recruitment but on the health of serving expatriate officers. Despite the fact that there was actually some considerable improvement in recruitment particularly of Medical Officers during the early part of the year, the increase in both senior and junior service staff lags relatively far behind the growth of our rapidly increasing commitments. There is still a serious dearth of Medical Officers of Health. The number of Medical Officers is still quite inadequate for the needs of the country. Our total strength of Medical Officers of all categories is 234 which, added to the 275 other non-Government registered medical practitioners, gives a total of 509 doctors to Nigeria’s population of 30 million people, *i.e.*, one doctor to every 60,000. The present number of doctors will therefore have to be stepped up thirty-fold in order to provide a doctor to population ratio of 1 : 2,000. With our Medical School at Ibadan and that proposed at Kano turning out not more than their maximum estimated output of forty-eight doctors and ten Medical Assistants annually for many years to come, it is manifest that the attainment of this ratio will not be achieved for many generations. The figures however underline the magnitude of our

problem. With an average service life of twenty to twenty-five years per Medical Officer, a maximum annual output of forty-eight doctors from our medical schools will just suffice to maintain an establishment of approximately 1,000 Medical Officers, which number must therefore be the objective to which we must rapidly build. In the meantime, in order to maintain a health service adequate for the rapidly increasing needs of the country it is essential that regions should make the maximum financial provision annually for as large a number of Medical Officers as can be recruited. In the cadre of expatriate Nursing Sisters, the usual wastage (mainly due to matrimony) continued. Though this will no doubt be made up in due course as Nigerian girls who have gone for training overseas return home, the response of girls to the local opportunities now offered for training as junior nursing personnel is disappointing, even in the more advanced and less conservative areas.

6. The principle is now widely accepted that, in assigning a place to medical and health programmes in any general plan of development in tropical territories and in allotting to it a proper proportion of the available resources, the fact must constantly and clearly be borne in mind that a disease-ridden, under-nourished community cannot hope to achieve the same results as one which is adequately fed and reasonably free from disease. Freedom from disease however is not enough. The modern conception is one of "positive health", which the World Health Organisation has defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity". We in Nigeria are acutely aware that we are very far from achieving this perhaps idealistic state. Our most widespread endemic disease, malaria, still takes its heavy toll of 50,000 children's lives annually, besides being responsible for much adult sickness and economic loss. Smallpox is still rampant in too many areas. An occasional irruption of yellow fever still occurs and one of the means of controlling this menace, namely, community wide immunisation by mass inoculation as the French have done in their colonial territories, is at present beyond our resources. There is still too high an infant mortality rate, even in urban areas. We are only just beginning properly to tackle the increasing ravages of tuberculosis, to ascertain the exact incidence of which we are at present conducting a preliminary large-scale survey. The sanitation of even urban areas still requires improvement. Though our emphasis is, as it must be, on the improvement of our rural health services, our hospital facilities must also be expanded; there is at present an overall average of one hospital bed to every 3,000 of the population (the optimum average in modern communities is considered to be 1 : 200). We lack a blood transfusion service, though it is hoped to start one in 1953. There is lack also, except in a few urban areas, of a workable and practical scheme for the collection and assembly of vital statistics, or of a central registry, without which no material health scheme could be intelligently planned or executed. All these are but a few of the many medical and public health problems for which we must find an early solution, handicapped as we are by our lack of staff and resources, and by the competing claims of other national needs.

7. Appreciable growth can however be recorded in some of our existing facilities, though as already recorded further cuts in new projects planned under the Development programme have again been necessary. There has been an expansion of training schools for nurses, midwives, sanitary inspectors, dispensary attendants and health visitors; of the work of the rural health and medical field units in the Eastern and Western Regions; of the school medical services in Lagos, Abeokuta Province, and Calabar; of the dental centre and mobile dental clinic at Ibadan, which have fully justified their inauguration; and of the tuberculosis survey to which a specialist officer has now been appointed. New hospitals were completed at Onitsha and Ogoni in the East,

Birnin Kebbi in the North and at Shagamu in the West, besides extensions and improvements to various other existing hospitals. To these must be added the vigorous expansion, particularly in the East, of the Voluntary Agencies in the fields of hospital extension, maternity and child welfare work in rural areas, and the training of nurses and midwives. The usefulness of mobile field units reinforced by a mobile laboratory was fully demonstrated in the first severe epidemic of yellow fever recorded in the Eastern Region and the first of any magnitude in Nigeria for many years. The activities of the Leprosy Service and the introduction of sulphone therapy—in the development of which the Nigerian Leprosy Research Unit under the direction of Dr Lowe at Uzuakoli played an internationally recognised part—have completely revolutionised leprosy policy and outlook. There is definite evidence that leprosy is now on the decline in parts of the Eastern Region, which was formerly regarded as one of the most heavily leprosy-ridden areas in the world, while the posting of a Senior Leprosy Officer to the North has sensibly stimulated progress. It is again gratifying to note that there has been no major epidemic of cerebrospinal fever in the Northern Region, though the recorded incidence of smallpox is still disquietingly high, and the incidence of blindness due to onchocerciasis and trachoma in certain parts of that Region is a new challenge which has to be met and contained: plans to this end are already being made in collaboration with the British Empire Society for the Blind.

8. A notable landmark in the territory's medical history was the abolition, by a resolution of the Legislature, of the private practice of medicine and surgery by Medical Officers in Government and Native Administration institutions, with effect from the 1st April, 1951. Extra-mural practice is however still allowed. The introduction during the year of increased fees under the new Hospital Fees Regulations produced a slight but temporary decrease in the number of hospital attendances (*see* paragraph 20).

II.—ADMINISTRATION

A.—DEPARTMENTAL ORGANISATION

9. It is convenient here briefly to describe the present departmental organisational structure, which is diagrammatically indicated in the Chart which forms Appendix VII to this Report.

10. The activities of the Central Headquarters of the Department fall, together with those of the Education and Social Welfare Services, within the portfolio of the Minister of Social Services. This Headquarters is in the charge of the Inspector-General (formerly Director) of Medical Services assisted by a Deputy and an Assistant Inspector-General, with specialist advisers on rural health, leprosy and on the training of nurses and midwives. To these it is hoped to add in future an Adviser on Nutrition. Appendix I sets out the present Central functions of the Department.

11. In each of the three Regions the unit of administration is the Medical Area. Each Medical Area coincides in the majority of cases with the administrative areas of one or more District Officers (in charge of political divisions); it is based on a General Hospital and is in charge of a Medical Officer (assisted in some cases by a Rural and an Assistant Medical Officer) who is responsible for the maintenance of both medical and health services in his area. The Medical Areas in their turn are grouped into Medical Divisions. Each Medical Division coincides in area with two or more political provinces administered by Residents, and is in charge of a Senior Medical Officer who is responsible for and advises the appropriate Residents on all matters of medical and health

administration within his Division, and is the channel through whom all communications are conducted with Regional Headquarters. The three Regional Headquarters are situated at Kaduna (North), Enugu (East), and Ibadan (West). Each Regional Headquarters is in charge of a Director of Medical Services, assisted by a Deputy Director, a Regional Senior Health Officer and a Regional Matron. Gradual re-organisation of the existing Medical Divisions is at present in progress. Comprising as they do several provinces each, they have proved too large and unwieldy for efficient administration by a single Senior Medical Officer, and efforts are now being made to reduce the number of provinces per Medical Division as more Senior Medical Officers become available. The ultimate aim, as the staff position improves, is finally to abolish Medical Divisions as such and to post to *each* single province a Senior Medical Officer, who will be in administrative charge of all medical and health matters in the province and be responsible directly to Regional Headquarters. Appendix II shows the details of the present arrangements.

B.—STAFF

12. The principal staff problems have been mentioned at paragraph 5 above. The numbers in the main categories are :—

Senior Service

Medical Officers, Specialist, Research and Headquarters staff	234
Dental Officers	11
Matrons, Nursing Sisters, Nursing Superintendents, Health Sisters and Sister Tutors	121
Superintendents and Control Officers—Health, Laboratory, Medical Field Units, Sleeping Sickness Service, Malaria, Leprosy	112
Pharmacy Superintendents, Inspecting Pharmacists, Medical Storekeepers, and Principals of Pharmacy Schools	13

Junior Service

Pharmacists and Masters	152
Sanitary Inspectors	239
Nurses and Midwives	1,437

13. *Nigerianisation*.—Of the total Senior Service posts, no fewer than 29 per cent are now held by Nigerians as compared to 19.5 per cent in 1948. The most notable increase was in the cadre of Health Superintendents which in the proportion of local officers rose from 18.5 per cent to 48 per cent. Among qualified medical staff almost a half (47 per cent) of all Medical Officers, and almost a fifth (18.5 per cent) of the senior medical staff are Nigerians.

C.—LEGISLATION

14. The Adaptation of Laws Order, 1951, adapted or modified existing health legislation by transferring to the new regional authorities most of the powers and duties which formerly pertained to the central authority. There are now therefore, in addition to the *Nigeria Gazette*, three *Regional Gazettes* in which appear much subsidiary Government and Native Authority legislation relating to building rules, conservancy, cemeteries, markets, food, sanitary bye-laws, public health rules and notices, rabies, vaccination and so on. The principal measures enacted and published in the *Nigeria Gazette* are given below.

C.—LEGISLATION—*continued*

1. ORDINANCES

<i>Serial No.</i>	<i>Date</i>	<i>Short Title</i>	<i>Provisions</i>	<i>Gazette No.</i>
24	27-9-51	Medical Practitioners and Dentists (Amendment) Ordinance.	Amendment of section 8 and addition of provision for temporary registration.	51 of 27-9-51
16	—	Medical Auxiliaries Registration Ordinance.	To provide for the registration of medical auxiliaries and for the control, regulation and training of such auxiliaries.	29 of 22-3-52

2. REGULATIONS

<i>Serial No.</i>	<i>Date</i>	<i>Short Title</i>	<i>Provisions</i>	<i>Gazette No.</i>
59	31-8-51	Diseases of Animals (Amendment No. 2).	Amendment of Regulation 9A (2).	46 of 6-9-51
62	7-9-51	Quarantine Ordinance (Aerial Navigation) (Amendment)	Amendment of Regulations 2 and 4.	50 of 20-9-51

3. ORDERS IN COUNCIL

<i>Serial No.</i>	<i>Date</i>	<i>Short Title</i>	<i>Provisions</i>	<i>Gazette No.</i>
14	1-4-51	Births, Deaths and Burials (Katsina Burial Ground).	Declaration of Public Burial Ground.	20 of 12-4-51
30	2-8-51	Public Health (Port Harcourt Planning Authority Area) (Application).	Application of the Public Health Ordinance to Port Harcourt Planning Authority Area.	41 of 9-8-51
44	2-10-51	Public Health (Application to Ibadan Province).	Application to Ibadan Province of the Public Health Ordinance.	53 of 11-10-51
5	18-1-52	Yellow fever (Umu Osie Clan Court Area, Oye-Olo-Awha-Okpoho Group Court Area, Umu-Osi-Akuli-Clan Court Area and Ngwo-Clan Court Area).	Compulsory inoculation in areas named.	6 of 24-1-52
6	23-1-52	Births, Deaths and Burials (Christian Cemetery-Kaduna Sabongari and Township).	Amendment of description of Cemetery.	7 of 31-1-52

4. RULES

<i>Serial No.</i>	<i>Date</i>	<i>Short Title</i>	<i>Provisions</i>	<i>Gazette No.</i>
9	6-6-51	Coroners (Post Mortem Fees) (Amendment) Rules.	Fees not to be paid to Medical Practitioners in receipt of staff pay.	30 of 14-6-51
10	12-7-51	Midwives (Amendment) Rules	Amendment of areas of registration.	41 of 9-8-51

D.—FINANCE

15. Comparative financial statements for the years 1950-51 and 1951-52 are :—

I.—ACTUAL MEDICAL EXPENDITURE, EXCLUDING C.D.W. EXPENDITURE ON BUILDINGS

Year	Nigerian and Regional Estimates		Colonial Development and Welfare Schemes (excluding buildings)		Total Nigerian, Regional, and C.D.W.	
	Total	Expenditure per head of population	Total	Expenditure per head of population	Total	Expenditure per head of population
1950-51	£ 1,675,021	s d 1 1.4	£ 433,139*	s d — 3.5	£ 2,108,160	s d 1 4.9
1951-52	1,804,934	1 2.4	521,149†	— 4.2	2,326,083	1 6.6‡

* Building costs not shown in Medical Estimates were £58,708.

† Building costs not shown in Medical Estimates were £370,520.

‡ Total expenditure 1951-52, including building costs, £2,696,603 = 1s-10d per head of population.

II.—PROPORTION OF ESTIMATED MEDICAL EXPENDITURE TO ESTIMATED TOTAL REVENUE : NIGERIAN AND REGIONAL FUNDS ONLY, EXCLUDING C.D.W. GRANTS

Year	Total Estimated Revenue	Estimated Medical Expenditure	Proportion of Revenue allocated for Medical and Health Services
1950-51	£ 26,186,390	£ 1,839,175	% 7.03
1951-52	32,192,880	1,957,325	6.08

16. The total estimated expenditure for 1951-52 comprising £1,957,325 from Nigerian and Regional funds, shown above in the second table, plus £1,601,226 estimated expenditure from Colonial Development and Welfare grants (the latter including estimated building costs) was £3,558,551. Owing to staff shortages and inability to complete all the buildings for which provision was available in the estimates, the expenditure was in fact £1,804,934 from Nigerian and Regional funds and £891,669 from Colonial Development and Welfare Funds, giving an actual total expenditure of £2,696,603, equalling 1s-10d per head of the population of thirty million. The actual expenditure from Nigerian and Regional funds was therefore short of the estimates by £152,391 and from Development funds by £709,557. The figure of 1s-10 per head is considerably below the figure for most African territories. For example, that for Gold Coast is above 3s and that for Gambia over 5s. Nigeria, apart from its actual size and large population, has proportionately more serious problems than most territories. The planning of future development, especially of preventive measures, accordingly demands not only careful consideration of the possible applications of modern technical advances and an increase (as is stressed elsewhere in this report) in the present numbers of trained personnel of all ranks, but also considerable augmentation of medical expenditure per head of population.

III.—PUBLIC HEALTH

A.—GENERAL HEALTH

17. In the North there was happily no generalised outbreak of either smallpox or cerebrospinal fever though both infections continued to take their toll. An epidemic of jaundice, possibly due to food intoxication, occurred in Plateau Province and is described in Appendix III. At Kano, road accidents increased and over 300 people died in a disastrous fire at the El Dunia Cinema.

18. In the Eastern Region there was a marked fall in the incidence of smallpox but a serious outbreak of yellow fever occurred in Onitsha Province. A short description of this epidemic is given in paragraphs 43 to 49.

19. The Western Region's good record of infectious disease control was maintained.

20. Returns from Government and Native Administration hospitals and from Government dispensaries give the following totals of patients treated :—

<i>In-patients</i>	<i>1951-52</i>	<i>1950-51</i>
Government hospitals	106,335	
Native Administration hospitals	26,613	
	<hr/>	<hr/>
	132,948	143,280
	<hr/>	<hr/>
 <i>Out-patients</i>		
Government hospitals	979,498	
Native Administration hospitals	112,477	
Government dispensaries	159,109	
	<hr/>	<hr/>
	1,251,084	1,261,598
	<hr/>	<hr/>

The decrease in the numbers treated is attributed partly to the more accurate rendering of returns and partly to the operation of the new Hospital Fees Regulations, which had a noticeable but temporary effect at a number of institutions.

21. The return of diseases and deaths (Table I) refers to 128,515 in-patients and 1,054,226 out-patients. The proportions of these hospital patients suffering from the more frequently recorded conditions are given in Table II and are illustrated in Diagrams Nos. I and II.

22. It is noteworthy that women admitted to hospital for normal delivery or for abnormal conditions of pregnancy or of the puerperium comprise over 17 per cent of all in-patients. Related to this is the growing popularity of ante-natal clinics and maternity centres in towns and rural areas, particularly in the Eastern and Western Regions. It is highly satisfactory that more and more advantage is being taken of the increased and improved facilities which are gradually being provided, and it is evident that rural units must increasingly deal with the normal case in order that the hospitals may have more accommodation for the abnormal. In other words, the emphasis must in future be on domiciliary, as opposed to institutional, delivery.

23. Malaria, diagnosed in 7.7 per cent of in-patients and 13.9 per cent of out-patients, caused 4.6 per cent of in-patient deaths.

24. The burden borne by the digestive system can be gauged from the following figures :—

			<i>Proportion of in-patients per cent</i>	<i>Proportion of in-patient deaths per cent</i>	<i>Proportion of out-patients per cent</i>
Hernia and Obstruction	..		5.9	3.8	0.6
Dysentery, Diarrhoea and	..				
Enteritis	..	..	5.1	7.5	6.4
Liver Diseases	..	..	1.5	3.4	6.0
Other Diseases of the Digestive					
System	..	..	2.3	2.7	3.6
Total	..	..	<u>14.8</u>	<u>17.4</u>	<u>16.6</u>

25. Diseases of the skin and cellular tissues, of which a high proportion are ulcers, and injuries total between them almost 17 per cent of in-patients and 29 per cent of out-patients.

26. The major insect-borne and communicable diseases are considered in Chapter V and in various appendices.

B.—HEALTH OF EXPATRIATE POPULATION

27. A steady increase in numbers of the expatriate population is noted. The total number is now computed to be approximately 15,000, but exact figures must await the completion of the census. Health remained satisfactory. Returns from hospitals dealing solely with senior service officials and similar unofficial groups were :—

			<i>In-patients</i>	<i>Out-patients</i>	<i>Confinements</i>
Northern Region	..		856	4,764	110
Eastern Region	..	..	734	3,771	68
Western Region	..	..	430	3,663	45
Lagos	..	..	1,524	9,218	140
Total	..	..	<u>3,544</u>	<u>21,416</u>	<u>363</u>

28. Despite the variety and efficacy of suppressive drugs, malaria continues as the principal cause of serious illness requiring hospitalisation, and suggestions have been made that the prophylactic dosage of the most commonly used drug, paludrine (*proguanil*), be increased from 0.1 to 0.2 gram daily for adults. The more effective prophylactics—chloroquine (*nivaquine*) and daraprim (*pyrimethamine*)—have not yet come into common use. Skin conditions, gastro-intestinal derangements, respiratory infections and accidents are other common causes of morbidity.

29. Deaths of expatriates totalled :—

Northern Region	..	..	..	..	..	..	21
Eastern Region	..	..	..	..	..	..	12
Western Region	..	..	..	..	..	..	2
Lagos	..	..	..	..	..	..	12
Total	..	..	..	..	..	..	<u>47</u>

30. In adults two deaths were due to blackwater fever, and one each to cerebral malaria, smallpox and typhoid ; three resulted from a power house explosion at Port Harcourt and five from road accidents in the Northern Region ; cardiovascular conditions were responsible for eight. At Lagos, there were nine infant deaths, two from malaria, two from spina bifida, and one each from pneumonia, pulmonary oedema, prematurity, atelectasis, and atresia of the bowel ; the two infant deaths in the Northern Region were due to broncho-pneumonia and cerebral malaria.

31. Thirteen expatriate officials were permanently invalided, seven because of anxiety states or psychoneurotic conditions, two with respiratory conditions, and one each for malaria, injury, cardiovascular and gastro-intestinal disorders. Their average age was just over forty. Of the thirty-three officials temporarily invalided, eight were cases of psychoneurosis.

32. In Lagos the increase of expatriate population was marked in the new residential areas at Apapa and Ikeja. In addition to the Medical and Surgical Consultants at the over-taxed Creek Hospital, officers were available in Lagos throughout the year for specialised work on otolaryngology, dermatology, ophthalmology and radiology, some 1,500 expatriate out-patients attending their clinics.

IV.—VITAL STATISTICS

33. The population of Nigeria, now estimated at approximately 30 million, will be more accurately known when the census, now in progress, is completed.

34. A growing appreciation of the value of registration of births and deaths was recorded during the year. Local authorities are being encouraged to develop voluntary systems and proposals for eventual compulsory registration have been discussed. Most progress has been made in the Northern Region, where the Katsina Province system is considered reasonably accurate after three years' trial. A similar system has begun in the Hadejia and Gumel Emirates of Kano Province, and several other areas have made a start. Elsewhere, apart from one rural area in the East, figures are obtained only from a few urban areas. Returns from six areas are given in the Table below.

VITAL STATISTICS RETURNS FROM LAGOS, ENUGU, PORT HARCOURT, KATSINA PROVINCE, HADEJIA AND GUMEL

	<i>Lagos</i>	<i>Enugu</i>	<i>Port Harcourt</i>	<i>Katsina Province</i>	<i>Hadejia</i>	<i>Gumel</i>
Estimated Population . .	233,000	45,000	60,000	1,255,165	218,119	126,300
Registered Live Births . .	14,526	2,396	1,169	43,108	7,919	5,335
Crude Birth Rate	61.2	53.2	19.5	35.1	36.6	42.2
Registered Deaths	3,561	394	417	19,843	4,958	3,168
Crude Death Rate	15.2	8.8	6.9	16.2	22.7	25.1
Registered Infant Deaths . .	1,055	104	104	3,992	—	—
Infant Mortality Rate . . .	74.0	43.4	88.9	92.6	91.1	195.1
Registered Still Births . .	329	91	108	—	—	—
Still Birth Rate	23.1	38.0	92.4	—	—	—
Maternal Mortality Rate . .	4.63	—	—	8.1	—	—

35. The Lagos births have an unusual preponderance of males, 1,449 to 1,000 females. The recorded birth-rate is about four times and the infant mortality about two-and-a-half times those of England and Wales, while the crude death rate, at 15.2, is about 25 per cent above that of England and Wales, and the still-birth rate is approxi-

mately the same. 1,001 of the Lagos infant deaths were certified and the chief causes of death given were :—

Pneumonia and Bronchitis	..	..	..	..	..	233
Prematurity	..	..	..	..	..	179
Convulsions	..	..	..	..	..	128
Diarrhoea and Enteritis	..	..	..	..	..	100
Debility	..	..	..	..	..	87
Malaria	..	..	..	..	..	67
Asphyxia	..	..	..	..	..	63
Cancrum oris	..	..	..	..	..	39
Tetanus	..	..	..	..	..	35
Tuberculosis	..	..	..	..	..	12

36. At Enugu, deaths are not well registered ; the infant and crude mortality rates are accordingly fallaciously low. The low crude birth rate and death rate at Port Harcourt are explained by poor registration in one section of the township and the large floating population, but the high infant mortality and still-birth rates are probably a true reflection of existing conditions. Of the three Northern Emirates producing records, Gumel has appreciably higher rates for births, deaths, and infant deaths.

37. *Maternal Mortality*.—The rates recorded are from four to eight times greater than the corresponding rates for England and Wales.

V.—HYGIENE AND SANITATION

A.—PREVENTIVE MEASURES

(i) INSECT-BORNE DISEASES

(a) *Malaria*

38. Routine larvicidal oiling, drainage and related measures continued at all stations, hampered, as always, by lack of staff and funds.

39. The Lagos Town Council employs staff on domestic and field control. For the former, shortage of qualified sanitary inspectors was made good to some extent by the employment of anti-mosquito inspectors who undertook routine household inspections and did spraying of premises on request. Field work includes larval control and maintenance of the swamp drainage scheme where tidal erosion and wear and tear of tidal gates cause much work. Crab-hole breeding remains a problem despite the use of B.H.C. pellets, and flooding at the Apapa reclamation area required much extra oiling. All wells and ponds are stocked with larvivorous fish, and nurseries are maintained for the afforestation of suitable reclaimed land.

40. In the North, the Senior Malariologist reported on potential rice-growing areas near Bida and Lake Chad, and on Kano Airport where conditions had deteriorated seriously but to which a full-time Health Superintendent has now been posted. Apart from some new drainage at Kano, the most highly organised scheme is at Katsina where B.H.C. residual spraying of Government quarters and clearing and D.D.T. spraying of many borrow-pits is undertaken ; unfortunately the value of these measures cannot be assessed, through lack of accurate pre-control malariometric data.

41. The outstanding sanitary achievement recorded from the Eastern Region is the construction of a dam at the Otumoye swamp at Onitsha, previous attempts to drain which were too costly to maintain ; eventually the lake now formed by the resulting mosquito-free inundation may be reclaimed by sand-pumping from the River Niger.

Onitsha's second problem, anopheline breeding among *Pistia* in the Nkisse stream, has been tackled by wholesale fascinating, B.H.C. spraying and other means, but radical cure must await attack on the *Pistia*, probably with weed-killers, in head-waters fifty miles upstream.

42. The research and field work of the Malaria Service is recorded in Section XIV and Appendix VI.

(b) *Yellow Fever*

43. *The Udi Epidemic.*—The first proven epidemic, entirely confined to the indigenous population of the Eastern Region, occurred in the central escarpment area of the Udi Division of Onitsha Province towards the end of 1951. Cases were, in retrospect, estimated at 5,500 and deaths at 600. Sixty-six cases, including fifteen deaths, were proven as yellow fever by the following methods :—

(i) Isolation of virus	..	..	..	..	..	..	33
(ii) Serology	..	..	..	..	..	..	20
(iii) Histopathology of liver sections	..	..	..	..	..	..	13
Total	..	..	..	..	..	..	66

44. The outbreak began in October, was officially reported on November 19th, and confirmed on December 12th from mouse-protection tests on second serum specimens from convalescent cases. The peak was reached in late November and early December, immediately following the end of the rains, and the last case died on January 25th, 1952.

45. The main epidemiological factors were the very low immunity level in the affected area and the local custom of storing water in numerous half-buried clay pots, leading to *aedes* indices of from 1 per cent to 100 per cent.

46. The control measures adopted were :—

- (i) Mass vaccination with scratch vaccine obtained from Dakar ; 202,920 vaccinations were done but the use of this vaccine was discontinued.
- (ii) Vigorous anti-larval work and propaganda on emptying or covering water-pots ; uncovered pots were emptied, oiled or treated with 2 per cent D.D.T. in commercial alcohol.
- (iii) Anti-mosquito measures by spraying of houses with B.H.C. and D.D.T. in watery suspension ; this was considered of less importance than (ii).

47. In addition a Field Hospital, opened on December 14th, admitted 145 patients in twenty-seven days ; of these fifty-one were proven to have yellow fever. In conjunction with this hospital was a Field Laboratory under the personal supervision of the Acting Director of the Virus Research Institute (*see* paragraphs 207 and 208). Staff engaged on control measures comprised five Medical Officers, four health or medical field unit superintendents, fifty-six medical field unit assistants and eleven sanitary inspectors.

48. No cases originated in Enugu town, the nearest affected village being six miles distant. One case, infected in Udi Division, died in Lagos a few days after arrival there by train. Fortunately, no secondary case occurred.

49. Surveys of other areas of Onitsha Province are now planned and will be followed by mass vaccination of areas with low immunity.

(c) *Trypanosomiasis*

50. Total cases diagnosed fell from 8,808 in 1950-51 to 7,585, of which 7,220 were in the Northern Region, 363 in the Eastern Region, and two in the Western Region. Over 700 miles of stream were cleared to eradicate riverine tsetse-fly. A further 130 miles of stream were cleared and some barrier clearance done to halt a *G. morsitans* advance in Zaria which threatened to extend into Kano and Bauchi. A full report is given in Appendix V.

(d) *Plague*

51. No case was reported. In Lagos and other ports 24,120 rats were examined with negative results.

(e) *Typhus*

52. Nine cases were admitted to hospital. Seven of these, of whom one died, were in the North.

(f) *Louse-borne Relapsing Fever.*

53. Ninety-seven cases were reported in the Northern Region, eighty-three of them from Katsina Province.

(g) *Filariasis*

54. *Onchocerciasis*.—Moderate incidence with a high proportion of ocular signs and considerable blindness is reported from parts of Plateau, Bauchi, Adamawa and Zaria Provinces in the North. Investigations are being made by field units, entomological, and ophthalmological staff. In the East, this disease is widespread in the Udi Division of Onitsha and the Kumba and Victoria Divisions of the Cameroons but, unlike the North, little if any blindness appears to be caused; in one Udi village, incidence was reckoned at 85 per cent.

55. *Loa loa*.—Laboratory research and field investigations continued at Kumba. In five villages examined 15 per cent of the population had loaiaasis, and 80 per cent had *mf. perstans*.

56. *Wuchereria bancrofti*.—Infection is common in many areas but does not produce many serious pathological conditions.

(ii) EPIDEMIC DISEASES

(a) *Smallpox*

57. Returns for the year April, 1951 to March, 1952 were :—

		Northern Region	Eastern Region	Western Region	Nigeria
Estimated population—millions	..	16.8	7.4	5.4	29.6
Cases of Smallpox	.. ..	9,068	2,161	887	12,116
Case incidence per 100,000 population	..	54	29	16	41
Deaths	.. ..	1,793	270	143	2,206
Case mortality rate per cent	.. ..	19.8	12.5	16.1	18.2
Vaccinations done	.. ..	1,552,986	784,554	898,443	3,235,983
Percentage of population vaccinated during the year	.. ..	9.2	10.6	16.6	10.9

58. Smallpox returns since 1947 have been corrected by a laborious investigation of the original reports. The annual figures, by Regions, are given below, and the figures for cases only, by four-weekly periods, are illustrated in the graph at page 46.

Year	Northern Region		Eastern Region		Western Region		Nigeria	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1947	4,370	860	563	23	492	71	5,425	954
1948	3,519	516	1,868	287	357	27	5,744	830
1949	5,542	771	6,251	981	3,070	494	14,863	2,246
1950	10,036	1,928	7,254	953	3,650	498	20,940	3,379
1951	8,101	1,632	2,498	432	1,280	212	11,879	2,276
1952 (to March 22nd) ..	3,983	775	577	71	204	32	4,764	878

59. In 1951-52 incidence and case mortality were highest in the Northern Region, with Adamawa, Bauchi, Benue, Bornu, Kabba and Plateau the provinces most affected. Outbreaks in the East were localised and the totals of both cases and deaths in 1951-52 were less than half those of the preceding year. Incidence in the Western Region is now low.

60. The graph presents several points of interest.

(i) *Vaccinal state*.—Smallpox control appears to have been fairly good in the East and West at the end of 1946. By 1948 herd immunity was however sufficiently diluted, presumably by births and a low rate of infant vaccination, for sizeable outbreaks to occur the following year. The increased vaccination activity evoked by this epidemic resulted in a decline of infection so that now (1952) incidence is negligible in the West and is moderating in the East.

The North, on the other hand, has reported a considerable outbreak each year since 1947. The increase in and since 1950 is possibly due to better notification resulting from the widespread medical and administrative activity in rural areas which accompanied and followed recent outbreaks of cerebrospinal fever.

(ii) *Epidemiology*.—There is a marked seasonal fluctuation in incidence in all regions, an increase in the dry season and a decrease during the rains. This is more marked in the North than elsewhere. The occurrence of considerable numbers of cases in the East and West during the rains of 1949 and 1950 indicates that increased humidity *per se* has little effect on the transmissibility of the virus. It is likely that the fluctuations are due to seasonal variations in the movements of population. During the rains there is far more coming and going in the East and West than in the North. In the North, during the short wet season, everyone is busy on his farm, many roads are closed, and distances are great. Conversely, in the dry season, the Northerner is a great traveller; bands of labourers from the remotest northern villages trek to seek work as far south as ports on the coast and Niger Delta. This suggests one method of approach to improved control—the vaccination of travellers on all the main traffic arteries.

61. In all regions, but particularly in the outlying areas of the hot arid North where lymph deteriorates very rapidly, both transport and storage problems are receiving attention, and steps are being taken to make available the better-keeping freeze-dried lymph. The supervision of junior staff doing vaccinations also presents a great problem which will be difficult to solve until more officers are available for rural work.

(b) *Cerebrospinal Fever*

62. The most serious epidemic phase appears to have passed. Notifications fell from over 30,000 in 1950-51 to 6,957, with 1,236 deaths, in 1951-52, a case mortality of 17.8 per cent. The heavy and late rains of 1951 and the early onset of rain in 1952 may have been important factors in the Northern Region where outbreaks were mostly small and localised.

(c) *Enteric Fever*

63. Fifty-nine cases and nine deaths were reported, with undue prevalence in Benue Province.

(iii) ENDEMIC DISEASES

(a) *Leprosy*

64. Details of development and expansion are given in Appendix IV.

(b) *Tuberculosis*

65. The two Medical Officers who gained the Tuberculosis Diseases Diploma returned to duty in July 1951 and have since been employed full-time on tuberculosis work. The nucleus of the Tuberculosis Survey Unit was gradually formed as equipment, housing and offices became available, with its headquarters at Ibadan, the best base for investigation of densely populated urban areas. The Unit's technical staff consists, as yet, only of the specialist, a radiographer and a nurse, and there are seven clerical and other junior employees. The fixed mass miniature X-ray unit remained in Lagos for use by the Radiologist and the Medical Officer held the daily chest clinic there.

66. During four months of active field work in the Western and Northern Regions 20,000 people were tuberculin tested, and 1,200 were X-rayed in Lagos. Two-thirds of the tuberculin tests were done in the five to fifteen age group, as advised by Professor Heaf. The broad indication is that by the age of twelve years half of the urban population receives its primary infection. This is regarded as disturbing and sharpens the interest in the incidence of actual pulmonary disease which will be disclosed by the mobile mass miniature X-ray unit which is scheduled to arrive very soon.

(c) *Yaws*

67. This infection is of consequence in the Northern Region only to the south of the Niger-Benue valley and in parts of Plateau Province. At Makurdi Hospital 1,864 cases were treated and the provincial Medical Field Unit is investigating incidence and planning a pilot control scheme. Although yaws is endemic in the East and particularly common in a number of medical areas, only 5,217 patients were treated at hospitals. Rural medical staff gave intensive penicillin or mapharside courses to 2,592 people, and will soon investigate areas in Rivers and Onitsha Provinces where it is proposed to inaugurate pilot control schemes. In the West, prevalence is greatest in Benin, where a Field Unit has started work, and in Ondo where another Unit is to be established.

(d) *Venereal Diseases*

68. These are regarded as a major problem in the Northern Region and were particularly noted at Barakin Ladi, where there is a fluctuating population associated with the tin-mining; at Sokoto, where many cases in the later stages of syphilis required in-patient treatment; and at Hadejia, where 13.5 per cent of hospital cases were diagnosed as having syphilis and 5.5 per cent gonorrhoea. In Sokoto Province two field surveys revealed that 34 per cent and 44 per cent of those examined were sero-positive, the Ide test being used.

(e) *Rabies*

69. Plans are being considered on an inter-regional basis to reduce the incidence of canine rabies and for the manufacture locally of the Flury vaccine for active immunisation.

(f) *Dysentery*

70. About 23,000 cases were treated at hospitals and there were 211 deaths among the 3,223 in-patients. In the Eastern Region, almost half of the cases notified came from Onitsha Province.

(g) *Anthrax*

71. One case was reported from Okigwi.

(iv) OTHER INFECTIOUS AND CONTAGIOUS DISEASES

72. An extensive outbreak of measles occurred in Katsina Province. Measles is much more common than indicated by hospital statistics and its complications, particularly pneumonia, cause considerable mortality in children. Whooping cough, also with an adverse effect on infant life, was reported in the North, the East, and Lagos. Chickenpox is relatively common. The Sokoto Field Unit investigated and dealt with extensive outbreaks of severe scabies, in some cases of which crippling secondary infection was a complication. Tetmosol 10 per cent in palm oil, alone or combined with sulphathiazole for infected cases, was found effective as a mass treatment. A sharp, explosive outbreak of salmonella food poisoning occurred at the Enugu Government catering rest house. *B. typhimurium* was isolated from cases and from two food-handlers on the staff. The kitchen was at the time under repair and meals were being cooked under camp conditions.

Helminthic Diseases

73. Ascariasis is almost universal in many areas. Hookworm infection varies in incidence but the degree of infestation, as measured by egg counts, is much lower in the more arid northerly provinces. Tapeworm is particularly prevalent in some districts of the North, and the suggestion has been made that its prevalence there is partly due to the scarcity of firewood for cooking.

74. Guineaworm incidence is gradually declining in the North as properly protected wells are built, but much remains to be done to combat this crippling infestation. In the East, only Ogoja Province is seriously affected.

75. The relative importance to the public health of schistosomiasis (*bilharzia*) is difficult to assess. It is most common in the North where the urinary form is widespread and may affect 70 to 80 per cent of the population. Incidence is highest in adolescence. In later life, some tolerance is developed but it may be far from complete. The intestinal form is focal in distribution and of low incidence, though an 8 per cent infection rate has been recorded in school children. Field work was stimulated by the visit of Dr Elmer C. Berry of the United State Public Health Service who made extensive surveys of possible vector snails, taught junior staff to collect and identify specimens, and initiated trials with Santobrite (*Sodium pentachlorophenate*) which is a potent molluscicide and appears harmless to growing rice although poisonous to fish. In the Cameroons, very high infection rates of *S. haematobium* were found associated with the crater lakes of Kumba Division. In most of the Eastern and a great part of the Western Region, schistosomiasis is absent or is extremely localised.

76. Paragonimiasis is endemic in the Kumba and Victoria Divisions of the Cameroons. Rates of from 2 to 5 per cent were found in four Kumba villages fully surveyed. Incidence was highest in girls at the age of puberty or adolescence, the imperfectly cooked vector crabs being consumed chiefly as aids to fertility. Symptoms appear not to be very serious, but two girls were seen with hemiplegia thought to be due to ectopic parasites. Emetine, alone or with sulphonamides, fantorin, miracil D, and antrypol—all proved ineffective in treatment.

B.—GENERAL MEASURES OF SANITATION

(i) URBAN AND RURAL WATER SUPPLIES

(a) *Urban Water Supplies*

77. An important advance was the posting of a travelling Assistant Government Chemist to the Northern Region, where only six towns and two reservations have piped supplies, and only that at Kaduna is satisfactory in both quantity and quality. The

Kano supply is being augmented by laying mains and installing new pumping plant, and improved by the use of twenty new Candy filters. In Sokoto Province, a piped supply is almost completed for Sokoto town, and preliminary work has been done at Gusau. Dams have been constructed at Ilorin and Kaiama in Ilorin Province. Jos has an enlarged reservoir but inadequate mains and purification plant.

78. In the East, Enugu has safe water, the quantity of which is to be doubled. Sedimentation, filtration and chlorination are being introduced for the unsatisfactory Onitsha supply. Aba's acute water shortage still exists, but a temporary scheme to give 300,000 gallons daily should soon function, and a complete scheme estimated to satisfy requirements for the next twenty years is now approved. Little progress is, however, expected at Umuahia, the worst served town in the Region. The chlorinated Calabar supply will shortly be doubled in quantity. Abakaliki's scheme, including filtration and chlorination, would have been completed but for delay in the supply of minor parts.

79. The Western Region reports good progress with the new schemes at Oshogbo, Ede, Iwo, and Ilesha ; the completion of that at Warri ; the distribution of untreated water at Owode and Effon-Alaiye ; and augmentation of the Lagos supply. Consideration is being given to improvements at seven towns and to new schemes at ten others when financial circumstances permit.

(b) Rural Water Supplies

80. In the North and East, the much appreciated provision of protected wells continued steadily, if slowly in relation to needs. Real progress in the West was limited to Ondo and Oyo, deep wells being so far unsuccessful in Benin, where three tanker lorries are now in use to supply seriously affected villages.

(ii) SEWAGE AND REFUSE DISPOSAL

(a) Sewage Disposal

81. There have been no major changes. In towns the conservancy system is general, but septic tanks are increasingly used in residential areas. In some rural areas the pit-latrines is traditional ; in others custom dictates more or less indiscriminate fouling of the streams, creeks or the village precincts. Borehole latrines are reported to be working satisfactorily in Ogoja.

82. Disposal of nightsoil by composting is increasing steadily in the North, but less rapidly in other Regions, where over-building in towns is making the provision of adequate trenching grounds a problem, and difficulties in maintaining labour forces, despite special rates of pay, stress the need for motor transport. The tendency to instal aqua-privies in institutions is growing. Materials, workmanship and design, especially the size of tanks, must be good. Over-use, particularly where they are installed as public conveniences, tends to make them a nuisance.

(b) Refuse Disposal

83. Incineration is widely practised, and some refuse is used in composting. In Lagos, Ibadan and other large towns, controlled tipping is done to reclaim swampy land. As for nightsoil removal, motor transport is being increasingly advised.

(iii) INSPECTION OF NUISANCES

84. Regular inspection of premises to detect and abate nuisances is a mainstay of public health practice. The Western Region reports a welcome improvement in

convictions. The scale of the work undertaken, with a far from adequate inspectorate, is shown by figures from the Eastern Region :—

Houses inspected	..	..	..	..	..	..	316,012
Dirty houses	..	..	..	..	..	..	75,797
Houses with mosquito larvae			..	..	..	..	4,121
Mosquito index	..	..	..	..	..	..	1.3%
Notices issued	..	..	..	..	..	..	6,223
Prosecutions	..	..	..	..	..	..	1,770
Convictions	..	..	..	..	..	..	1,484
Fines	..	..	..	..	..	..	£1,581

85. The mosquito index for the 140,000 compounds inspected in Lagos was 1.6 per cent. The control of aedes breeding in villages throughout the Udi and Nsukka Divisions of Onitsha Province presents a difficult problem; however conscientiously control work is done in this large backward area, the only certain prevention of yellow fever epidemics will probably be by mass vaccination of the population. This will commence shortly.

C.—SCHOOL HYGIENE

86. At Abeokuta in the West and Calabar in the East, Medical Officers inaugurated successful pilot schemes. The first scheme aims at general improvement on a provincial basis, with courses for rural teachers at the central hospital, the provision of simple medicaments at schools, and regular visits to the more neglected rural areas by the Medical Officers and private practitioners. The Calabar scheme began with four large urban schools with a total of 1,700 pupils who will undergo annual or more frequent examination, the results of which are recorded, and for whom a special early-morning clinic has been opened. It is now being extended to other areas by Government and Voluntary Agencies. A notable finding in the first 1,700 children examined was an incidence of 0.23 per cent active pulmonary tuberculosis (four cases). In both these Regions the possible provision of a comprehensive school medical service, and the provision of school meals, is being discussed but the financial difficulties are enormous. Free medical treatment of school children in all Government and Native Administration hospitals and dispensaries throughout the Western Region is already planned for 1952-53.

87. In Lagos, three Medical Officers are employed on school medical work. Regular school inspections are made and 47,000 attendances were registered at the daily clinics. Chronic malnutrition is regarded as the chief factor in the causation of the most important ailments dealt with—avitaminosis, skin diseases, helminthiasis and eye diseases. Over 150 cases were referred to the Eye Consultant, Sir Kofoworola Abayomi.

88. Elsewhere, Medical Officers, health visiting sisters, sanitary inspectors, and other staff do routine inspections and vaccinations. In the North, measles and chicken-pox were noted at Idah, delousing was required at Maiduguri, and an incidence of 35 per cent of smallpox scars was reported from Hadejia; hookworm and schistosomiasis were prevalent in Ilorin.

D.—LABOUR CONDITIONS

89. The larger corporations and companies are extending their medical services, providing much improved housing, and assisting, in some cases, by bulk-buying of foodstuffs. The Cameroons Development Corporation has eight hospitals built, building or projected, and two large housing estates, where semi-detached houses are provided for 700 employees, have been constructed by it at Tiko and Bota. The Shell D'Arcy Corporation now has a Medical Officer and Nursing Sister at Owerri, and

the United Africa Company has hospitals at Ndian in the Cameroons and Odukpani in Calabar Province in charge of local Medical Officers responsible to a Senior Medical Officer in Lagos who exercises general oversight of all the Company's medical activities and units throughout Nigeria.

90. At Burutu the United Africa Company has built modern houses, arranged for improved food and water supplies and introduced an accident prevention campaign. Many of the Northern mining camps are reasonably well kept but tall crops, uncollected refuse and native liquor premises may create nuisances. Under the 1950 Treaty with neighbouring Spanish possessions, male workers proceeding there have been examined by Government medical staff in Calabar at the rate of 600 per month. In consonance with official policy this work is now to be undertaken by a private practitioner. The Specialist from Calabar inspected labour camps and facilities in Fernando Po and French Gabon and found them satisfactory.

91. In the Western Region nine dispensaries are operated by the United Africa Company in timber camps and plantations in the Sapele area, and in the North the Colonial Development Corporation has opened a dispensary at Mokwa and provided a resident Medical Officer.

E.—FOOD IN RELATION TO HEALTH AND DISEASE

92. The following conclusions concerning nutritional status are suggested by studies made since 1948 :—

- (1) The best-nourished and the worst-nourished groups are found in urban communities, the nutritional state being directly related to economic circumstances. Nutrition in the rural population is between these extremes, and is nearer to that of the wealthier urban groups.
- (2) Village diet usually supplies nutrients in amounts capable of preventing gross deficiency disease but leaves no reserve against emergencies such as infection or temporary food shortage. When these occur the marginal nutritional economy breaks down and serious deficiency states appear rapidly. In towns, diet is limited by availability and costs and the deficiencies seen among the poor predispose them to additional illness.
- (3) Despite a drift of adults to the towns and an extremely high infant mortality rate, village populations maintain and even increase their numbers. The more rapidly growing urban population creates a demand for foodstuffs greater than the villages can supply.
- (4) Should infant and child mortality in villages be rapidly reduced through prevention of communicable diseases (which is possible when funds, equipment and trained personnel are made available), the resultant increase in the rural population would alter the present precarious nutritional balance, and would lead to increased ill-health and further under-production.
- (5) The Nigerian in good economic circumstances can attain high standards of physical development despite climatic conditions, infections and infestations, but these standards are attained by the few.

93. Public health measures will, as they have done elsewhere, cause rapid population expansion, but must not be allowed to cause semi-starvation and its attendant misery and inefficiency. The immediate importance therefore of augmenting and improving village food supplies which is the declared primary objective of our agricultural policy, requires emphasis.

94. Means of improving nutritional status are of as great importance as, or are even more important than, public health measures. This improvement could be effected along two main lines of development—firstly, the organised mass-production of staple foods (as exemplified in the Niger Agricultural Project), rice production schemes in various provinces, and plans to increase the availability of fish, meat and dairy produce ; secondly, the improvement of farming methods and of selection of crops by the independent small-holding family group, which is a basic aim in various agricultural, resettlement, tsetse eradication and community development schemes. Plans for rural dietetic improvement should be confined to foodstuffs that can be grown locally by the peasant farmer and should eschew imported foods. Workers in large scale projects should be encouraged to grow for themselves protective foods to supplement their staples. The success of such plans depends on intelligent and long-sustained co-operation between many departments, local authorities, voluntary bodies and political leaders. To this end, the formation of regional and local advisory committees is being pursued. Because of the great variations in local conditions, it is important to formulate and implement programmes of improvement at the level of the lowest practical administrative unit such as the political Division. A primary requirement is the provision of expert information and advice for working parties which will study nutritional problems in individual areas, and for this purpose the appointment of an Adviser on Nutrition is contemplated.

95. The Eastern Regional Medical Advisory Board has endorsed the encouragement of a simple form of school meal and the undermilling of the increasing local supplies of rice. Means for the increased supply of yeast and other supplements to hospital diets continue to be investigated.

95. During 1952-53, the rains and harvest in the North were good. Reports from all regions emphasised the frequency of the minor signs of malnutrition ; the severe dietary stress undergone during pregnancy and during and after weaning ; and in urban and certain other areas, such as Victoria Division, the relationship between the high cost of food and the occurrence of serious deficiency states.

97. Food and meat inspection is a task for health staff in all townships and large villages, and steady progress can be recorded particularly in the protection of foodstuffs for sale.

F.—HOUSING AND TOWN PLANNING

98. Much time is devoted by all departments concerned to the planning of towns, layouts and houses. In general, progress is reported. The situation at Ibadan deteriorated, and was unsatisfactory elsewhere in the West, through lack of building rules or reluctance to enforce them. There are, however, signs that the Ibadan opposition is weakening. The Lagos Executive Development Board has made proposals for maximum population densities in Lagos and its suburbs where overcrowding is serious.

99. Enugu's new suburb of Uwani had tarred roads and concrete drains prior to the start of building work on the 600 plots. Lack of foresight and unwillingness to spend money on civic improvement are evident at Port Harcourt, but satisfactory progress is recorded on the new layouts at Onitsha and Owerri.

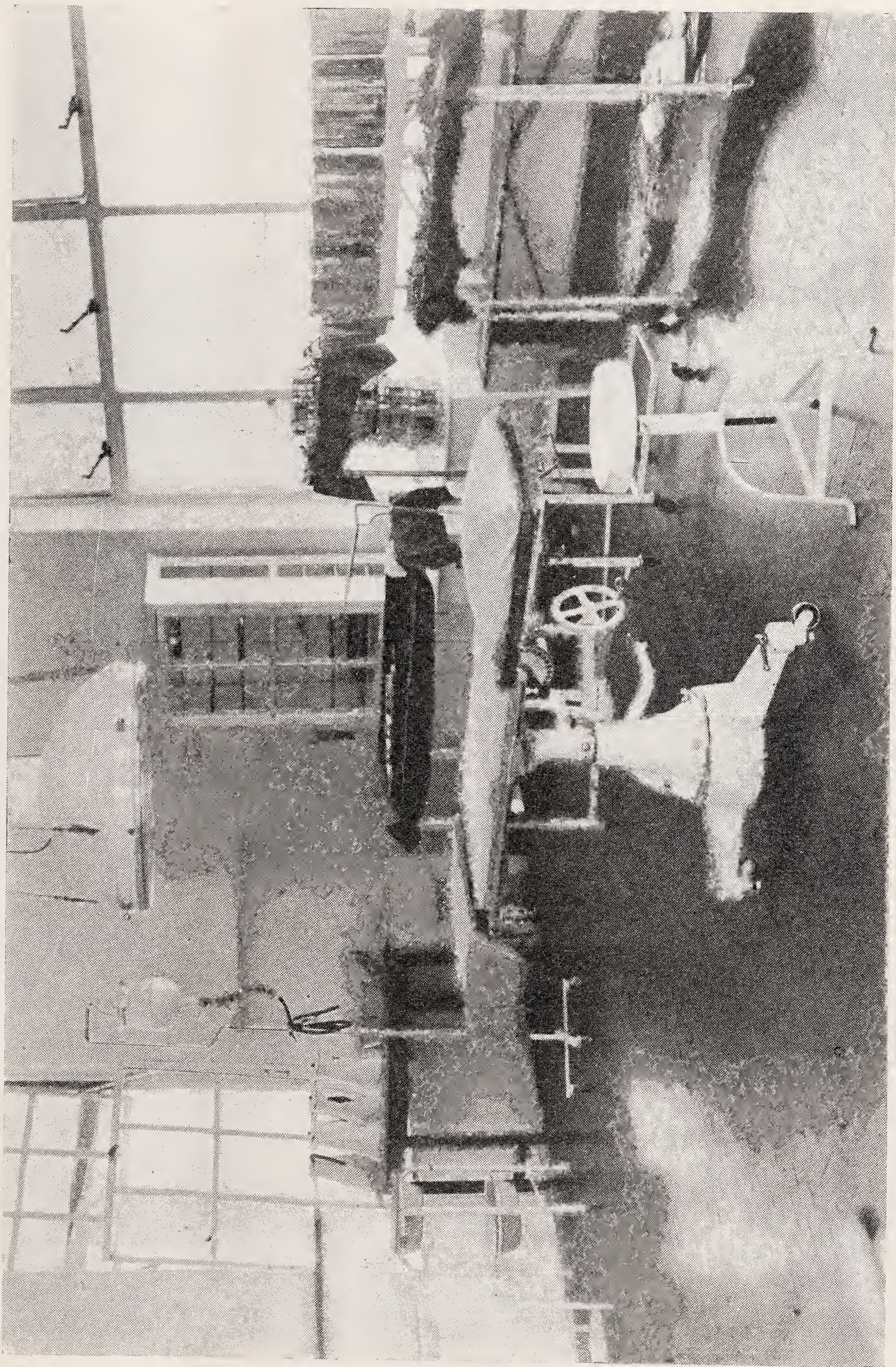
100. In the North, a growing tendency to attempt circumvention of the building regulations is noted and better construction methods are considered advisable. The old walled cities with their multitudinous borrow-pits, still apparently considered essential for new building and for repairs to the old, are a problem. Nevertheless, the Northern type of architecture does lend itself to improvements in spacing, ventilation, flooring and vermin-proofing of walls.



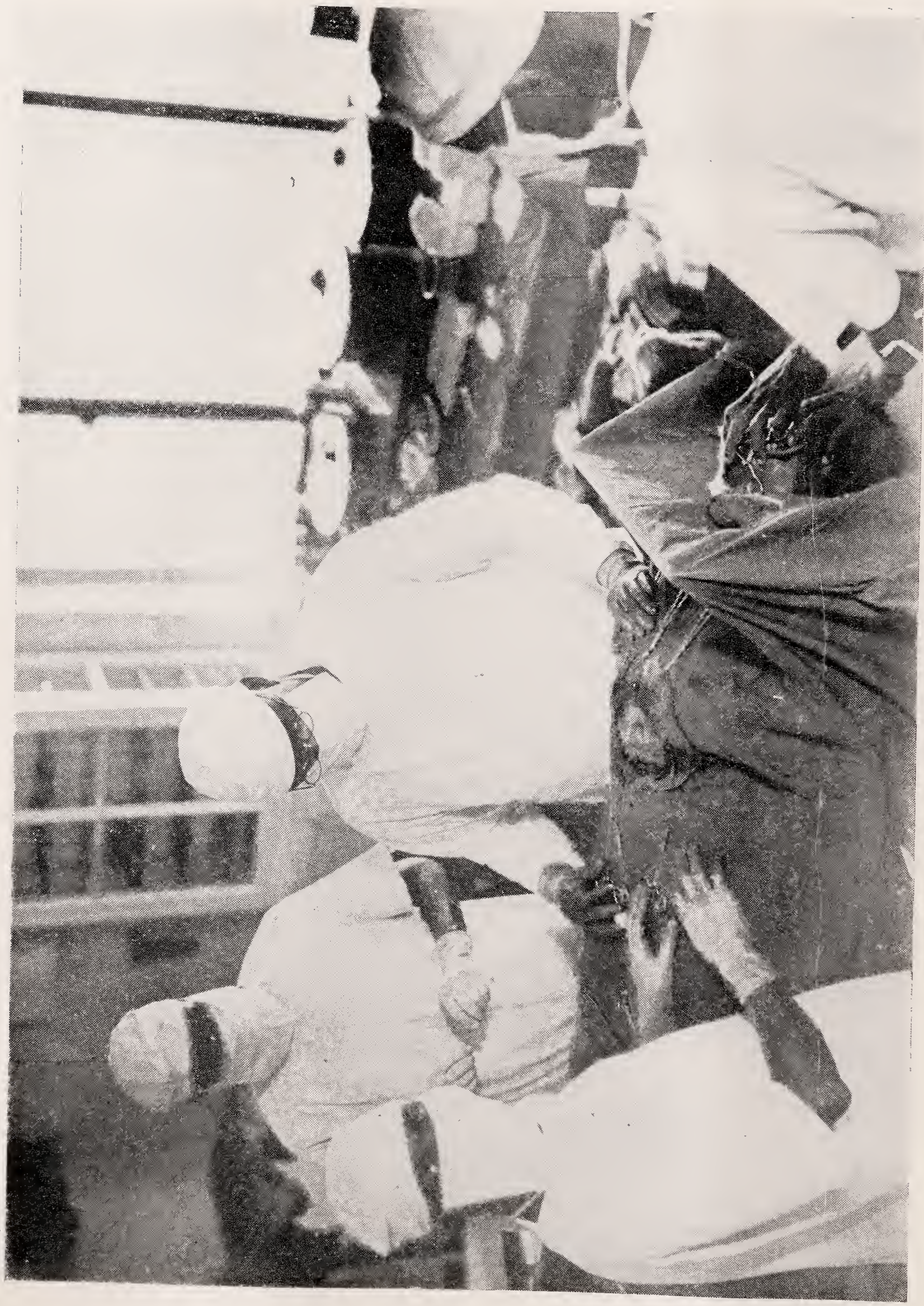
SIGNPOST TO HEALTH



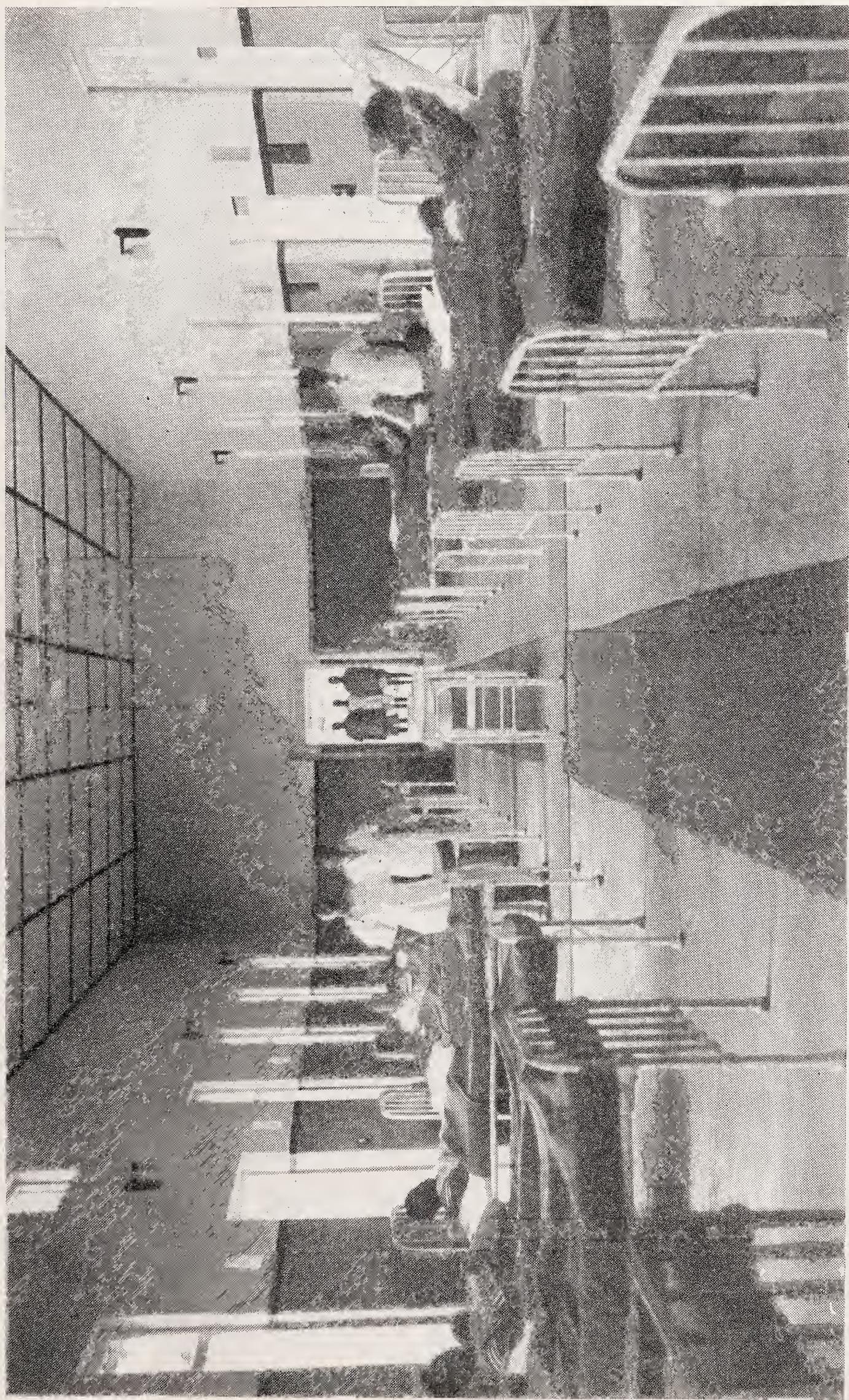
VIEW OF ENTRANCE TO ADEOYO NATIVE ADMINISTRATION GENERAL HOSPITAL, IBADAN



OPERATING THEATRE, ADEOYO NATIVE ADMINISTRATION GENERAL HOSPITAL, IBADAN



SURGEON AT WORK



A SURGICAL WARD



CONVALESCENT PATIENTS IN VERANDAH OF SURGICAL WARD



OUT-PATIENT DEPARTMENT—CARD ROOM



ANTE-NATAL CARE—RECORD TAKING

G.—HEALTH PROPAGANDA AND EDUCATION

101. The importance of actively functioning health committees, at village, divisional, provincial and regional levels, has been emphasised throughout the year since it is recognised that without a vast programme of health education, physical and financial effort to improve health may fail. Pressure of routine work and lack of specialist staff impeded the initiation of an organised country-wide educational drive, but much sound work is done locally by officials and voluntary bodies. The new Health Visiting Sisters are particularly active, and have contact with the most important strata of society—the mothers and children.

102. The main avenues for the dissemination of knowledge are the routine teaching of hygiene in schools supplemented by special talks given by departmental staff, the lively interest in health matters of the local press, cinema shows by the Public Relations Department, the radio diffusion service in large towns, the community development programmes in rural areas, and the organisation of Health Weeks, which were held in nine towns during the year.

103. The value of extensive touring by the Regional Senior Health Officer was amply demonstrated in the Western Region where frequent contacts with the local health committees gave them much needed stimulation and helped to maintain the general standards of the sanitary inspectorate. In the East, the activities of the Secretary for Community Development, a senior officer of the Administration in the Eastern Region (of “Daybreak in Udi” fame), have already produced remarkable results in the field of village betterment, though community development committees are themselves still somewhat reluctant to undertake health work. Northern opinion regards the cinema as a most fruitful line of development.

VI.—PORT HEALTH WORK AND ADMINISTRATION

104. No seaport or airport was declared infected during the year.

105. About 600 ships, with a total burthen approaching two million tons, entered and left Lagos harbour in 1951. At the inspection of 25,000 deck passengers only three cases of infectious disease were discovered. Over 1,200 aircraft on international flights arrived at and left Lagos airport; passengers arriving by air numbered 11,000. Port Harcourt with 308 ships boarded and 5,500 deck passengers examined is the next busiest port. There are two International Sanitary Aerodromes in the Northern Region, at Kano and Maiduguri, the former a very important traffic centre sited unfortunately—from the health point of view—within two miles of Kano City.

Plague

106. Rodent examinations made in addition to the dissection of 24,120 rats with negative results were :—

					<i>Lagos</i>	<i>Port Harcourt</i>
Rats examined alive	..	..	..	..	4.977	345
Pulicine index	..	..	..	..	3.52	2.1
<i>X. cheopis</i> index	..	..	..	..	3.16	1.6

At Lagos, fourteen ships were fumigated, and sixty-nine deratisation exemption certificates and thirty-three extension certificates were issued.

Smallpox

107. Only forty-six cases were reported in Lagos township as compared with 179 in 1950-51. Port Health staff did 5,667 vaccinations, including 1,099 for International Certificates. At Kano, an early case in a localised outbreak was an unvaccinated airport hotel employee engaged without reference to the health authorities.

Malaria

108. Regular inspection for, and neutralisation or destruction of, anopheline breeding places is done on foreshores, dock installations canoes and other craft. On British ships enquiry and inspection are made to ensure that the Ministry of Transport requirements are followed. Screening of buildings at Kano and Maiduguri is being improved and general anti-mosquito work is being reinforced at Kano.

Yellow Fever

109. One case of yellow fever, infected in Udi Division, died in Lagos shortly after arriving there by train, but no subsequent cases occurred.

110. It is advisable that the crews of ships calling at West African ports be protected against yellow fever. It has not been generally appreciated that, should infection reach a port and inoculation of crews be required, the vaccination certificate is not valid for ten days, during which time the men concerned would not be permitted to leave the port. Much inconvenience and expense to companies might thereby be caused. The importance of the inoculation of all passengers and crews has been brought to the notice of the appropriate organisations of the shipping industry, but it is believed that many members of crews are still reluctant to undergo inoculation.

VII.—HOSPITALS, DISPENSARIES AND OTHER UNITS

A.—EXISTING FACILITIES

111. The Map at the end of this report shows the existing medical facilities. The use made of them is indicated by the following figures :—

	<i>Government</i>	<i>N.A.</i>	<i>Mission</i>	<i>Private</i>	<i>Total</i>
Hospitals	76	8	33	35	152
Hospital Beds	5,344	1,159	2,200	735	9,438
Rural Health Centres ..	2	1	—	—	3
Maternity Centres	—	161	61	22	244
Beds at Rural Health and Maternity Centres ..	5	682	581	116	1,384
Dispensaries	33	741	41*	13	831
Hospital In-patients ..	106,335	26,613	33,344*	14,846*	181,138
Hospital Out-patients ..	979,498	112,477	239,447*	115,864	1,447,286
Dispensary Out-patients ..	159,109	2,712,488	91,047	40,105	3,002,749
Maternity cases in Hospitals, Rural Health Centres and Maternity Centres ..	18,090	26,648	19,154	3,291	69,183

B.—ADDITIONS TO HOSPITALS AND TRAINING SCHOOLS

112. At Lagos, alterations to the theatre and the installation of air-conditioning for both theatre and X-ray rooms are still incomplete at the Igbobi Orthopaedic Hospital and have somewhat handicapped work. A new air-conditioned theatre is being built at the Creek Hospital and a new kitchen block and laundry were erected. The formerly

* Returns incomplete.

non-residential Preliminary Training School was converted to a residential school for female probationer nurses. At the Yaba Tuberculosis Hospital a new ten-bed ward was started. The old quarantine block at the Ikeja airport has been modified to form a very useful dispensary.

113. Reports of new work elsewhere in the Western Region are encouraging. Extra land has been acquired at Abeokuta, a new maternity ward is nearing completion and a theatre and X-ray block has been started. One dormitory block was almost finished at the Ibadan Nurses' Preliminary Training School.

114. In Ijebu Province a new maternity ward at Ijebu-Ode came into use and progress was made with a new ward, tuberculosis pavilion, and nurses' quarters.

115. All buildings, providing accommodation for eighty patients, were completed at Shagamu, but only the twenty-bed maternity section was opened pending the arrival of equipment and provision of a water supply. Little progress is reported, except for one house nearing roof level, at Iwopin Maternity Hospital.

116. One new thirty-bed ward came into use, and another nears completion, at Benin. Extensions to the theatre and a power house were built at Agbor Hospital. At Warri, the new thirty-bed general and twenty-bed maternity wards await only sanitary fittings and equipment, and the ground floor of the Maples annexe has been converted into X-ray and waiting rooms. Negotiations to acquire land are almost completed at Sapele.

117. A thirty-bed block at the new Akure hospital is functioning, and rapid progress is reported with a second ward, X-ray, isolation, and administrative blocks, staff quarters and installation of electric plant. The old hospital is being converted for maternity and gynaecological work and fitted with electricity. Both hospitals have pipe-borne water supplies.

118. Regarding combined mission hospitals, work at Owo advanced satisfactorily with a £15,000 grant; two senior staff quarters were built, three wards were almost completed and ancillary buildings and junior quarters are in various stages of progress; lack of funds is now causing delay. A little preliminary work has been done on the site of the Ado-Ekiti Maternity Hospital. Plans for increasing female and paediatric accommodation at Ife have been approved. Extensions at Ilesha are being planned. A Government grant of £10,000 was allocated to the missions concerned for each of these three projects.

119. Good progress is also reported from the Eastern Region. Two new hospitals were opened and the construction of a third completed, viz :—

Onitsha—110 beds, with general, maternity, private and isolation wards, a large two-storied administrative and out-patient block, senior and junior service quarters in its grounds, and ample space for future expansion.

Ogoni—A country-type hospital with thirty beds in use and forty-five approaching completion, and quarters for senior and essential junior staff.

Bamenda—A full country-type hospital with seventy-five general and maternity beds and a thirty-bed tuberculosis pavilion; only pipes for the water supply are now required to permit its functioning.

120. Accommodation at Aba has been increased by forty-five maternity and thirty female general beds to cope with the great demands of women patients and to improve teaching facilities. A sixteen-bed ward has been brought into commission at Ogoja; an old building was renovated to provide for twenty children at Calabar; and the construction of a maternity ward begun at Enugu.

121. The Roman Catholic Mission, with a £30,000 grant, began construction of it, hospital at Amaigbo, Onitsha Province, and the Lutheran Mission, with a £9,999 grants is making rapid building progress at Eket, Calabar Province.

122. On the new hospitals in the Northern Region, that at Birnin Kebbi has been completed and good progress has been made at Mubi and Lokoja. Other new buildings finished are a thirty-bed ward at Offa and operating theatres at Kafanchan, Maiduguri and Jos. Various ancillary buildings are in hand or completed at Kano, Kafanchan and Yola.

123. Work began on three combined hospitals at Nguru (Bornu), Shendam (Plateau), and Oturkpo (Benue). The Sudan Interior Mission is building a hospital at Egbe (Kabba Province) without Government assistance.

C.—RURAL HEALTH CENTRES

124. In the North, the Kankiya buildings were completed apart from staff quarters, but are not yet in use. Construction began of a second new rural health centre at Argungu in Sokoto Province. At Ilaro and Auchi, in the Western Region, Field Units Medical Officers have undertaken supervision of the local health centres, each of which has a sister in charge. At Ilaro the provision of an ambulance filled an urgent need, and the high standard of work was maintained. The Auchi centre made good progress; the two health visitors averaged 800 home visits per month; the midwives delivered an average of twenty mothers per month in their homes; and attendance at ante-natal and infant welfare clinics rose in proportion.

125. These centres are being built under the Development Scheme and there will be at least three in each Region. It is hoped that, as Native Administration find staff and funds, they will build similar rural health centres in as many areas as possible, and that each centre will have a circle of satellite dispensaries and welfare centres.

126. In the Western Region, Native Administrations are being encouraged to add maternity and child welfare sections to existing dispensaries and are given increased Government grants to meet the cost.

127. The Demonstration in Rural Hygiene, undertaken at Fiditi by Professor Ajose of the Chair of Public Health at the University College, was transferred to Ilora. Work was concentrated on ante-natal and post-natal cases, infants, children and school children. As at Fiditi, the commonest ailments seen were malaria, yaws, helminthic infestations and gonorrhoea, the last considered by Professor Ajose to be a serious cause of sterility and chronic ill-health. Deficiency of the vitamin B complex was common among mothers. Almost a quarter of the children examined at a survey at Ilora had schistosomiasis. A local girl and a retired health visitor carried out much propaganda.

D.—NATIVE ADMINISTRATION DISPENSARIES

128. Concern is expressed at the deterioration of work done at many dispensaries in the North. They are popular, demands for new dispensaries continue and their numbers increase, but the growing volume of clinical, preventive and administrative work in stations prevents Area Medical Officers from visiting these Native Administration dispensaries as frequently as in past years. The cadre of Rural Medical Officers, when they are available in larger numbers, and the medical assistants who will in due course be turned out by the proposed school at Kano, should eventually do much to raise standards and to improve the curative and preventive work done at these dispensaries.

129. The North in addition to 313 Native Administration dispensaries has thirty-five Government dispensaries for sleeping sickness and minesfield work. The Government units are regularly inspected by Medical Officers, superintendents, sleeping sickness assistants or senior dispensary attendants. The maintenance of adequate equipment and supplies and of a higher standard of work at all of these centres would do much to satisfy medical needs in areas where the provision of hospital facilities within a reasonable distance of all villages will not be possible in the foreseeable future.

130. An increase in the number of Native Administration dispensaries is also reported from the Eastern and Western Regions. To ensure uniform training and improved standards, Native Administration trainees are now to be sent from these regions to the Makurdi Medical Field Units School.

E.—MEDICAL FIELD UNITS

131. All but a dozen of the 240 assistants required for the twelve units have now received their initial training, and a fair proportion have acquired reasonable practical and field experience. Two new units were established at Auchi, Benin Province, and Ahoada, Rivers Province, making a total of eight functioning units for the whole territory. The remaining four cannot be established owing to shortage of Medical Officers but most of their junior staff were posted to regions and utilised in preventive and other work under Area Medical Officers and health superintendents. The units are regionalised, with a quota—when they are fully established—of six, under a Senior Medical Officer, in the North, and three in each of the Eastern and Western Regions. Transfers to Regions, establishment of new units, and mobilisation for the Udi yellow fever epidemic (*see* paragraph 47) interfered with the advanced courses of tuition previously planned. For the greater part of the year no senior officer was available, and leave incidence of field officers interrupted continuity of work in some provinces.

132. One experienced assistant accompanied Dr E. G. Berry of the United States Public Health Service on his bilharzia snail investigation in the Gold Coast and has returned to continue surveys and teach other staff in Nigeria.

133. The field work of the units is summarised in Appendix III.

VIII.—MATERNITY AND CHILD WELFARE

134. The popularity of and growing demand for these services in the Eastern and Western Regions were noted in last year's report, which also recorded the transfer of emphasis from institutional to domiciliary delivery.

135. In the Eastern Region some provision in this sphere is made at all hospitals, ranging from the provision of one midwife and the allocation of a few beds to provision of from thirty to forty beds in a few busy centres which register from 1,000 to 2,500 institutional deliveries each. In all, 240 beds are provided. This work is highly developed at Aba which, like Calabar and Lagos, has a separate maternity hospital. The seventy-five Native Administration centres have 390 beds and reported just over 11,000 deliveries and 74,000 ante-natal attendances. Missions make a substantial and growing contribution ; some Mission hospitals are tending to specialise in this work and one has no less than thirty-three rural maternity centres under its supervision.

136. A Health Sister, posted to the Cameroons Province, was permitted to evolve her own system in this almost untouched field. She held clinics in courts and other reasonably suitable buildings. Her venture was a success ; 5,000 attendances were registered at clinics and 1,200 children were seen at home visits. The Native Authorities have been impressed and have selected local girls for training.

137. The Western Region is also well served with 102 centres, apart from its hospitals, and the seventy-four Native Administration centres with 250 beds recorded 11,771 deliveries. There is, however, considerable difficulty in retaining trained midwives in official services as they tend to set up in private practice, and a few centres have had to be temporarily closed through lack of staff.

138. The Massey Street Hospital in Lagos has quite outgrown the existing building and its seventy-four beds. A total of 8,437 women were admitted; 4,729 of them, including 1,247 abnormal cases, were delivered of 4,914 infants. Obstetric operations numbered 389 and twenty-three blood transfusions were given. Of the fifty-four maternal deaths, nineteen were due to anaemia and heart failure, six to eclampsia and four to ruptured uterus. The still-birth rate was just over 5 per cent.

139. The volume of work is also growing in the North. It is still greatest in the more southerly provinces of the Region, and among women of southern extraction in the Muslim areas. In urban areas few Muslim women attend but prejudice is lessening, particularly in Kano and Maiduguri, and evening clinics for purdah women are becoming popular though they impose a strain on staff. In rural areas Health Sisters, of whom there is now one in each province, are breaking new ground and their work is being increasingly appreciated and welcomed. As in other regions, missions participate more and more in this important branch of preventive medicine.

IX.—MENTAL HEALTH

140. The Medical Department has three Mental Hospitals, viz. Yaba, with accommodation for 156, Lantoro (Abeokuta) with accommodation for sixty-six, and Calabar with accommodation for thirty-three.

141. The Prisons Department maintains Prison Lunatic Asylums at ten towns. Most of these have only transit accommodation, but Port Harcourt provides for about 310 patients, Enugu for ninety and Calabar for thirty-three. In the North there are also small asylums in Native Administration Prisons at ten centres. All these asylums are inspected by Medical Officers, but treatment is generally limited to that of obvious organic disease such as syphilis or trypanosomiasis. Even under existing conditions considerable improvement is seen in some cases.

142. Although on the average only about 830 cases are under detention, most of the larger institutions are overcrowded. Extensions are planned at Abeokuta and, at Calabar a fifty-bed extension, with occupational therapy halls and a new kitchen block, approaches completion.

143. A modern Mental Hospital of 200 beds is also being built at Aro, near Abeokuta, and will provide much higher standards of care and of treatment and in the instruction given to junior staff. This hospital will ultimately be expanded to 500 beds.

144. In the departmental institutions there are fifty asylum attendants, some of whom have insufficient education to benefit fully from instruction. Nigerian Nursing Superintendents trained in Britain in mental nursing are now working at Yaba and at Calabar, and other mental nurses similarly trained will shortly be available.

X.—DENTAL HEALTH

145. Ten Dentists were on the establishment and an eleventh was recruited at the end of the year. A new dental centre was opened at Kano, the old building at Enugu is being replaced, and tentative plans have been made to move the Lagos unit from

Administrative Headquarters to vacant Medical Stores buildings. Improvements were made at the Ibadan centre ; a mobile unit, operated by staff from Ibadan, visited seven towns in the Western Region ; and clinics were started at the Adeoyo Hospital.

146. The demand for treatment is limited only by the number of Dental Surgeons available. Paradontal disease is the most important problem among Nigerians, and many patients present themselves for dentures to fill the gaps left by teeth that have dropped out because of advanced paradontal disease. To provide greatly increased coverage with a small professional establishment, a proposal is under consideration for training dental hygienists locally to undertake the less skilled work and to devote attention to the care of teeth in children.

147. In a group of 611 school children examined in the Western Region only 3.4 per cent had dental caries but about 70 per cent had calculus and the same proportion had paradontal disease. The chief factor in causing paradontal disease in children may be either the associated calculus or malnutrition. The gum condition was better in the older age groups, probably due to their more efficient use of sticks for cleaning their teeth even although these cause a certain amount of gum trauma.

XI.—X-RAY SERVICES

148. There has been little progress with new installations, the total sets in use being thirty as against twenty-nine last year. Thirteen sets are however now at various hospitals awaiting installation, one new set is in store, and two are on order.

XII.—LABORATORY SERVICE

149. The central units, which remain under the administrative control of the Assistant Director of Laboratory Services, comprise the bacteriological laboratory, the vaccine laboratory, the laboratory stores, and the central library of the department. To these will be added the Forensic Science Unit, whose laboratory is being built at Oshodi and, possibly, a Blood Transfusion Centre, still in the planning stage. Each region now controls its own laboratory services, but there is as yet no Regional Pathologist for the East.

150. Two Pathologists and four Laboratory Superintendents were recruited. It is hoped that a Senior Pathologist will shortly be appointed for the new Forensic Science Unit.

151. Work continued on the buildings for the production of yellow fever/smallpox vaccine, the main laboratory for which cannot be completed until after the arrival and installation of refrigerating and air-conditioning plant. Plans have been made for regional laboratories at Kaduna and Enugu.

152. Almost all centres report an increased volume of work. The chief obstacle to the opening of new laboratories is the provision of adequately trained technical assistants, recruiting for these posts being poor.

153. The demand for rabies vaccine is growing steadily. Production of lanolinated smallpox vaccine was maintained at the usual level. Experimental batches of 17D freeze-dried yellow fever vaccine, produced under difficult conditions with borrowed equipment, are now ready for testing, and considerable experience has been gained by the staff concerned in this work.

154. At Lagos there was a large increase in post-mortem examinations, all cases notified to the Medical Officer of Health, Lagos, being now examined.

155. The work of the service is summarised in Table III.

XIII.—TRAINING OF MEDICAL SERVICES PERSONNEL

Doctors

156. At University College, Ibadan, courses were given in Anatomy, Physiology and Pharmacology in the pre-clinical departments on the new permanent site. Of four clinical students, two transferred to the Sheffield University Medical School. Twenty-five students read the course leading to the London University Intermediate Science examination with the intention of proceeding to a medical course. Twenty-five also read the pre-clinical course and sat the Second Examination for Medical Degrees of the University of London in Special Relationship.

157. The free grant of a sum of £1½ million by the Central Legislature enabled plans to be put in hand for building the University Teaching Hospital on a new and better site and on a more generous scale than was previously proposed. The new hospital is expected to be completed in 1956. A delegation of the College visited the United Kingdom to discuss the possibility of placing students in medical schools in Great Britain and elsewhere during the period when the projected teaching hospital is under construction. It is expected that for the next four years students who pass the second M.B. examination of the University of London will be found places in overseas schools.

158. Records of medical students were :—

	<i>April-June</i> 1951	<i>October 1951 to</i> <i>March 1952</i>
1st Year Intermediate Students (pre-medical) ..	17	23
2nd Year Intermediate Students (for Intermediate Science and exemption 1st M.B.) ..	31	25
1st Year pre-clinical students	27	21
2nd Year pre-clinical students (for 2nd M.B. examination)	5	25
1st Year Clinical Students	12	4
Yaba Diploma Finals	—	1
		(left in December)
	<hr/> 92 <hr/>	<hr/> 99 <hr/>

159. Twenty-five students with Government scholarships are studying medicine in Britain, Canada or United States of America, and many more are sponsored by Government although not financially aided. In the last three years twenty-eight Nigerian doctors have returned and registered in Nigeria. Of this number twenty-five are in Government Service as Medical Officers. It is desirable to increase considerably the number of scholarships to enable students to train also in countries other than the United Kingdom, where difficulty is found in obtaining sufficient places, for instance in Canada and at certain schools in the Far East which have reciprocal registration with the United Kingdom.

160. Since 1948, apart from those taking the diploma in tropical medicine and hygiene, eleven Medical Officers have undertaken or are undertaking the D.P.H. course, seven had study leave in preparation for sitting for the M.R.C.P. or F.R.C.S., two are in training in radiology, two completed the diploma course in tuberculosis, four are training in ophthalmology, and one in psychological medicine.

Medical Assistants

161. Proposals have been approved for the foundation of a School at Kano to train Medical Assistants for the Northern Region. Because of the small numbers from the

Region who are in the near future likely to acquire, at Ibadan or in the United Kingdom, qualifications registrable with the General Medical Council, a cadre of this type is considered essential. The educational qualification will be Middle VI. The course of training will last five years. Those who qualify will be employed as House Physicians or House Surgeons at regional hospitals and as Medical Assistants in rural areas. A Principal for the school has been appointed and is in residence at Kano making preliminary arrangements.

Dentists

162. Four students with scholarships are studying dentistry in Britain, and one of them will soon complete his course. In the last three years three qualified Nigerian Dentists have returned to the country and joined Government service.

Nurses

163. Governmental Preliminary Training Schools are situated at Lagos, Ibadan, Aba, Victoria and Kano. That at Lagos is a new unit and was opened in October, 1951.

164. The Victoria and Kano schools, because of the low educational standards in the areas they serve, give a year's course to pupils with Middle II school qualifications as well as the normal six months' course for those with Middle IV. During the year, 103 pupils from Government Training Schools passed the preliminary examinations and proceeded to teaching hospitals. The results at Kano were particularly poor for the Native Administration pupils, twelve out of sixteen of whom failed, as compared to one failure among sixteen Government pupils. It is unfortunate that in the Northern Region only very few educated girls are, so far, available for training as nurses and medical auxiliaries ; vocational calling hardly exists and apart from lack of rudimentary scientific knowledge, there is an unpredictable variation in response to technical training among entrants of different educational standards.

165. At thirty-seven centres in Nigeria there are one or more recognised teaching hospitals giving the three-year course which leads to the qualifying examination. The 1951-52 returns were :—

					<i>North</i>	<i>East</i>	<i>West</i>	<i>Total</i>
<i>Training Centres</i>								
	Government	..	..	..	6	6	8	20
	Mission	..	..	..	3	11	3	17
					—	—	—	—
					9	17	11	37
<i>Nurses qualifying</i>								
	Government	..	..	..	21	46	54	121
	Mission	..	..	..	2	12	5	19
					—	—	—	—
					23	58	59	140

Midwives

166. Three grades are recognised, Grade I being mostly those in Government service who are usually also qualified nurses ; those in Grade II are employed by missions and native administrations principally in the Eastern and Western Regions ; Grade III is a less literate type restricted to the North, their training school at Kano being almost completed but not yet opened because of lack of staff. During the year, fourteen Grade I and sixty-nine Grade II Midwives qualified.

Assistant Physiotherapists

167. At the Lagos school there are nine students, two of whom will shortly complete training. Six qualified assistant physiotherapists were posted to regional hospitals.

X-ray technicians and operators

168. Two courses were held at the Lagos school. Three pupils qualified as technicians and two as operators. One pupil left on obtaining a scholarship in Agriculture tenable at Ibadan. Seven trainees are expected to undergo the next course.

Laboratory Technical Assistants

169. During the year thirty-four trainees began the new six-months preliminary training course at Lagos and twenty-two of them passed the test.

Sanitary Inspectors

170. Training lasting for two years is undertaken by regional schools at Ibadan, Aba and Kano, and by the Health Department of the Lagos Town Council, the records of which are :—

	<i>Lagos</i>	<i>Ibadan</i>	<i>Aba</i>	<i>Kano</i>	<i>Total</i>
New 1st year students	11	26	11	19	67
Failed 1st year or resigned	5	—	—	—	5
Completing 2nd year	22	—	2	16	40
Qualified and passed out after					
two years	15	—	7	12	34
Failed after two years	2	—	—	1	3

171. Of the forty-eight pupils at Kano, forty-four were sponsored by Native Administrations. Eighteen sanitary inspectors gained the certificate of the Royal Sanitary Institute (West Africa) Examination Board.

172. The Ibadan school also held nine-month courses for Sanitary Overseers. Twenty were successful in May from a class of twenty-four ; a new class of twenty-one began in September ; and twenty-eight out of thirty passed a promotion examination after a six-week refresher course.

Dental Technicians

173. Four trainees are in the second year of a three-year course, the length of which may be increased in the light of experience.

Pharmacists

174. At Lagos, staff changes, including the absence in the United Kingdom of a teacher to whom a scholarship was awarded to take a degree course and the transfer to the Zaria school of another promoted to the Senior Service, caused some dislocation. There were 107 students in four classes ; of these, twenty-two qualified as Chemists and Druggists, and nine from Zaria passed the less advanced final examination as Dispensers (Northern Region). This total of thirty-one is the highest number ever registered in one year. Tentative proposals are under consideration for the possible transfer of the Lagos school to the Nigerian College of Science, Arts and Technology.

175. Twenty-six students are in residence at Zaria. As noted above, nine obtained their Dispenser's Certificate and are now working under supervision in hospitals. Some difficulty is experienced in obtaining suitable Northern students.

Dispensary Attendants and Dressers

176. Training practice varies. Native Administration Dispensary Attendants are trained at local hospitals in the Eastern and Western Regions, but may now attend the Central Medical Field Units Training School at Makurdi. This school normally gives a one-year primary training to Government staff of the Medical Field Units and Sleeping Sickness Service who, if they show promise, are subsequently given more advanced laboratory training at a smaller school at Kaduna. Both of these schools have full-time Senior Service and Junior Service training staff.

177. For Northern Region trainees as Native Administration Dispensary Attendants there are two schools, at Zaria and Kano, but neither has full-time teaching staff. Refresher courses are held at hospitals for Native Administration staff and at Kaduna for Government personnel. Hygiene and simple preventive measures applicable in villages are included in the training, and practical work is a feature of the medical teaching. The numbers satisfying the examination requirements at the schools were : Kano, four out of sixteen pupils ; Zaria, fourteen out of twenty-one pupils ; Makurdi, thirty-eight out of forty-eight Government trainees and four out of six Native Administration pupils. Thirty-one Sleeping Sickness and twelve Field Units junior staff attended the Kaduna school for refresher and laboratory courses.

Leprosy Control Staff

178. Tuition was given at Settlements to twenty-three Government Leprosy Inspectors, of whom twenty passed the qualifying examination. A training school at the Oji River Headquarters will soon commence centralised standard training for Government, Native Administration and Mission staff. Courses for Medical Officers are also being organised.

Malaria Service

179. Two fourteen-day courses on field entomology and mosquito control were attended by twenty-five Sanitary Inspectors, and four Medical Field Units' dressers were given training in the parasitology of malaria. One Health Superintendent had a week's instruction on control work. Preparations are in hand for the forthcoming World Health Organisation Training Course.

XIV.—RESEARCH AND SURVEYS

1.—LEPROSY RESEARCH

180. The Research Unit is located at Uzuakoli Settlement. Under its direct supervision are almost five hundred previously untreated settlement patients selected for the activity and severity of their infection.

181. Studies in sulphone treatment have continued with particular reference to the dosage, frequency of administration, complications, and pharmacology of D.A.D.P.S. Sulphone studies also included work on promin and hydroxy-ethyl sulphone, which were found to have no advantages over D.A.D.P.S., and many disadvantages. Other drugs investigated included streptomycin, para-amino salicylate, thiosemicarbazone, and ACTH.

182. The scope of the laboratory work undertaken is indicated by the following summary :—

Tests for <i>M. leprae</i>	..	..	..	..	..	..	5,781
Blood examinations	..	..	..	..	..	..	2,294
Stool examinations	..	..	..	..	..	..	152
Urine examinations	..	..	..	..	..	..	421
Sputum examinations	..	..	..	..	..	..	66
Serology : Kahn Tests	..	..	..	..	..	..	549
Paul Bunnell Tests	..	..	..	..	..	..	438
Biochemical : Van den Bergh	..	..	..	..	..	..	8
Plasma Protein	..	..	..	..	..	..	1,136
Blood Sulphone estimations	..	..	..	..	..	..	350

183. The pioneer work of the Leprologist (Dr Lowe) and his unit has been the basis for the introduction of oral D.A.D.P.S. treatment, now widespread and giving spectacular results in Nigeria ; it is also being developed in other countries and is likely to have far-reaching and revolutionary effects on future leprosy policy.

2.—MALARIA RESEARCH

184. Investigations continued on epidemiology, parasitology, chemotherapy, entomology and insecticides. The results of several year's work on malaria in infants and children have been published, and an estimate given that the number of deaths due to malaria in the Nigeria population under fifteen years of age amounts to at least 50,000 per annum, apart from deaths due indirectly to the disease.

185. *P. ovale* is more common than was thought and its distribution is being studied. A survey of the blood parasites of wild rodents has been started, its particular object being to ascertain the existence of *P. berghei*.

186. Work based on a new technique of evaluating anti-malarials in infected African children demonstrated the good schizonticidal activity in *P. falciparum* infections of the new drug Daraprim (*pyrimethamine*).

187. A small-scale field trial with the new insecticide Dieldrin has begun. Using *A. gambiae* and *A. aegypti* as test insects, laboratory and field biological assays are being made on the B.H.C. treatment used at Ilaro, and the comparative effectiveness of other insecticides. Trials are being made of an inexpensive larvicide, and of herbicides against *Pistia*. Investigations were also made of spraying equipment at the request of the Colonial Insecticides Committee. The Malaria Service Information Bulletin No. 1, on insecticides, is about to be published and should provide a very useful and comprehensive guide on this subject to Medical Officers, Entomologists and others.

188. Field surveys were made at Bida, Lake Chad, Yola and Keffi, and at Kano and Port Harcourt aerodromes.

3.—HELMINTHIASIS RESEARCH

189. Work has been extended to cover aspects of filariasis other than loasis. Dissection of some 300 monkeys revealed that a large proportion of *Cercopithecus* monkeys harboured a filaria which has so far not been differentiated from *Loa loa*. Gaps still exist in knowledge of the life history, under natural conditions, of the vector fly, *Chrysops*. Much information has been obtained on the relationship between the fly's biting activity and microclimatic conditions, and the life cycle of *Loa loa* in the fly has been studied.

190. *Culicoides austeni* and *C. grahami*, the supposed vectors of the filaria *Acanthocheilonema perstans*, have been found breeding in rotting banana stems and their distribution may be closely related to banana and plantain cultivation. Monkeys are being examined to ascertain whether they act as reservoirs for this infection.

191. Medical investigations have consisted mainly, as in the past, of surveys to determine the incidence of filariasis in the human and monkey population.

4.—HOT CLIMATE PHYSIOLOGY RESEARCH

192. Work continued on the investigation of the heat tolerance of Nigerians representative of local labour, and progress was made in all the established lines of research. Using Nigerian subjects trained to the work but not artificially acclimatised to severe heat, a linear relationship has been established between sweat rate and Corrected Effective Temperature.

193. Work commenced on kidney function in a hot humid environment, and adrenal cortical activity during heat stress was investigated in acclimatised Europeans and in normal West Africans.

194. The main field investigation was done in a deep mine in the Gold Coast in parts of which very severe conditions were found. The findings were a valuable check on the academic hot room observations. Preliminary surveys were made in a

rubber plantation and a plywood factory. A visiting scientist enabled the scope of investigations to be widened, made observations on genetical problems and instituted collection of blood and saliva for detailed blood group analysis.

195. The investigations undertaken by this unit in the field of industrial physiology will greatly increase knowledge of the improvements required in working conditions and should lead to the reduction of fatigue and strain in industry.

5.—SURVEY OF SCHISTOSOME-TRANSMITTING SNAILS

196. Dr Elmer G. Berry of the United State Public Health Service worked in Nigeria for eight months before leaving for the Gold Coast and Sierra Leone. He gave elementary training to a number of Medical Field Units staff of all grades, and more advanced tuition to a senior assistant who subsequently accompanied him for further training to the Gold Coast.

197. The results of Dr Berry's activities were as follows :—

- (i) Field and laboratory investigations showed that the snail intermediate hosts, *Physopsis africana* and *Biomphalaria pfeifferi*, are widespread in the Northern Region but much more localised in the Eastern and Western Regions. They remain active throughout the year unless streams dry up, whereupon they aestivate until favourable conditions return.
- (ii) Natural infection rates were not investigated but under laboratory conditions from 50 per cent to 95 per cent of snails could be infected.
- (iii) *Pyrgophysa forskalii* is common in areas where urinary bilharzia occurs but is not proven as a vector. At Epe, in the Colony, and at Kumba, in the Cameroons, new species of *Bulinus* were found. The Kumba species is the local vector of urinary bilharzia, and the Epe species is presumed to be the local vector.
- (iv) The efficacy of Santobrite (*Sodium pentachlorophenate*) as a molluscicide was demonstrated. It is toxic to fish but did not affect growing rice. Further experiments with this substance are to be made.

198. Local staff trained by Dr Berry are to continue snail surveys particularly of Lake Chad, as well as the investigation of santobrite-treated streams near Kaduna.

6.—WEST AFRICAN INSTITUTE OF VIRUS RESEARCH

199. The Institute has been appointed a World Health Organisation Influenza Centre and is undertaking research on this disease. Facilities for general viral work are being extended and more Laboratory Superintendents have been engaged, though senior professional staff remains meagre.

200. In addition to the approved research programme, investigations and other research have been undertaken, the most important being in connection with Gold Coast and Nigeria outbreaks of yellow fever and on the use of the Dakar yellow fever vaccine. Sera for testing have been received also from Sierra Leone.

201. Six new baboon pens, an animals' kitchen, an open-air insectary, and one staff quarter have been erected. An old workshop has been converted to a laboratory and infected-animal room. Air conditioning plant for the main laboratory is now working and arrangements have been made for air-conditioning a smaller laboratory and for siting the emergency electrical generator.

202. In the mouse colony there were no epidemics. Over 70,000 mice were produced for laboratory use, and some were supplied to the Laboratory Service and to the Pasteur Institute, Dakar. The productivity of female mice, the survival of their young, and the fertility of males were analysed statistically.

203. Research was devoted largely to the evaluation of the African “neurotropic” viruses and yellow fever, and the study of local strains of rabies and the use of avianised Flury vaccine.

204. Incidence of neurotropic viruses and of yellow fever is being ascertained from sera collected from children in three widely differing areas, and tested for protective bodies against eight viruses—Bunyamwera ; Bwamba fever ; Mengo encephalomyocarditis ; Semliki Forest ; Uganda S. ; West Nile Yellow Fever ; and Zika. Some relationship is apparent between the Uganda S. and yellow fever viruses, and as immunity to the former might modify or protect against yellow fever, preliminary investigation of its behaviour in mice and monkeys was made.

205. Live avianised rabies vaccine from the Flury strain was received and propagated. Several experimental batches of vaccine were prepared and tested for keeping quality and protective power in animals. Local strains of street virus, of human and canine origin, have been isolated and fixed by passage. No strains of rabies have been isolated from thirty wild-caught rodents.

Yellow Fever, Gold Coast

206. In July, 1951, a team from the Institute went to investigate the Gold Coast outbreak of yellow fever at Adaiso. A survey indicated that there had been previous outbreaks. Entomological surveys suggested that *Aedes aegypti* was the vector ; *A. simpsoni* was also present and its biting habits are still under investigation. Visits were also made to several localities including Suhum where cases had been reported ; one case was confirmed who might have been infected at Suhum. Two strains of yellow fever virus were isolated from Gold Coast patients. A field trial of Dakar vaccine was done in Accra school children and nurses, and parallel laboratory studies were made. Mass immunisation with this vaccine was recommended, provided that it was kept refrigerated until used, that initially a careful watch was kept for severe reactions, and that sick and severely debilitated persons were not vaccinated.

Yellow Fever, Nigeria

207. Staff of the Institute personally investigated three outbreaks of unknown entiology at Ilesha, Okigwi and near Jos, but in none of them was yellow fever confirmed. In December the outbreak at Udi (Onitsha Province) was diagnosed as yellow fever. As soon as confirmation was obtained, arrangements were made to establish a field laboratory in the centre of the affected area. Comprehensive investigations were made possible in the short period before the energetic measures undertaken by health staff brought the epidemic under control. Serological investigations indicated that there had been previous epidemics in the area but there was no evidence that yellow fever is, or had been, endemic. Although adult yellow fever vectors were remarkably few, larvae of *Aedes aegypti* and *A. africanus* were both found in the half-buried water pots used in the villages ; the breeding of the latter species in such pots is unusual. Tree holes were numerous but dry at the time ; they would provide potential *aedes* breeding places in the rains. Viscerotropic virus was isolated from patients in the field hospital ; viscerotomy and serology confirmed other cases.

208. Encephalitis was observed to occur about twelve days after the use of the Dakar vaccine in a number of cases. Thirty-two deaths were recorded, twenty-five of them being in children under the age of five years. Four strains of virus were isolated from five cases autopsied and were shown to be neurotropic yellow fever virus not contaminated by other virus pathogenic for mice by the intracerebral route. The use of the Dakar vaccine for mass vaccination was therefore stopped.

Other viruses

209. Louping ill virus infected two of the staff handling it, despite strict precautions; infection was undoubtedly airborne ; the course of the disease was mild but typical and recovery complete and rapid ; the incubation period was seven days. Two strains of herpes simplex have been isolated, and one of equine encephalomyelitis. Attempts to isolate influenza and other viruses from Lagos patients with short-term pyrexia have been started.

Entomology.

210. Work was done on the biting habits of *Aedes simpsoni* in the Cameroons where it breeds in banana axils. This known vector was found, in contrast to findings in Uganda, to be more liable to bite man at altitudes above 1,500 feet. Bugher's finding that a man-biting race of *A. simpsoni* exists in the British Cameroons was therefore confirmed. A point of interest was the recording of *A. aegypti* breeding in plantain and banana axils. Little progress was made with studies on *Culicoides*. In the new insectary, to which the laboratory colony of *A. aegypti* was transferred, colonies of strains from India have been established and transmission experiments with these strains will soon be undertaken.

XV.—MEDICAL WORK OF MISSIONS

211. The figures at paragraph 111 give some indication of the invaluable work done by the Missions. The thirty-three hospitals, with 2,200 beds, and sixty-one maternity centres, with 581 beds, represent more than a quarter of Nigeria's hospital and midwifery accommodation. Hospital facilities are being extended and improved both with Mission funds and by Government grants-in-aid. Grants are also made for the training of nurses and midwives and for extension of rural services. The major part which the Missions play in the expansion of measures to control leprosy is an outstanding example of their co-operation with the official services. Mission staff are represented on central and regional statutory and advisory boards and thus share in improving training programmes, in regulating conditions for auxiliary staff, and in advising on policy.

XVI.—LIAISON WITH PRIVATE MEDICAL PRACTITIONERS

212. Private practitioners are increasing slowly in number in the East and West, and two now work in the Northern Region. The majority live in urban centres, but many tour extensively in rural areas. It is hoped that, in future, private practitioners will become associated with Local Government Authorities as part-time or full-time employees.

XVII.—MEDICAL INTERNATIONAL LIAISON

213. Regular bulletins of infectious diseases are maintained between the headquarters office in Lagos, the regions and neighbouring territories. Lists of personnel and maps showing medical posts and mobile units near frontiers have been exchanged.

214. In May 1951, the Inspector-General attended conferences at Dakar on Medical Education and International Liaison, and in July 1951, the Inspector-General, accompanied by the Medical Officer, Katsina, visited Maradi. Other visits made were by the Regional Director, Western Region, to Porto Novo ; by the Assistant Director of Laboratory Services to Dakar to study the blood transfusion service there ; by the Specialist, Calabar, to Gabon, Fernando Po and Spanish Guinea to study labour conditions ; and by the Senior Medical Officer, Medical Field Units, to Bobo Dioulasso to attend a Trypanosomiasis Conference and report on the French rural health services. A number of Medical Officers from stations or Medical Field Units close to frontiers

(Katsina, Bornu, Yola, Mamfe, Bamenda, Kumba and Abeokuta) conferred with their French colleagues. In February 1952, the Director of Public Health, Dahomey, and the Chief Medical Officer, Porto Novo visited Lagos and Ilaro, and arranged further regular visits by officers of the Western Region.

215. The first session of the World Health Organisation's Regional Committee for Africa was held at Geneva. The proposed establishment of its Regional Office at Brazzaville next year should lead to a further increase of inter-territorial liaison, co-operation and exchange of knowledge and information.

XVIII.—DISTINGUISHED VISITORS

216. Dr J. C. R. Buchanan, C.M.G., M.D., F.R.C.P., Principal Medical Officer, Colonial Office, visited Nigeria during March and April 1952 and attended the Annual Conference of the Directors of British West African Medical Services.

217. Under the Nuffield Foundation scheme, three Consultants visited Nigeria, two for the second time. As usual, their contacts with members of the staff at all levels were stimulating, helpful and instructive. The Consultants were :—

Public Health : Dr Andrew Topping, M.D., F.R.C.P., D.P.H., Dean, London School of Tropical Medicine and Hygiene.

Tuberculosis : Professor F. R. G. Heaf, M.D., M.R.C.P., University of Wales.

Obstetrics and

Gynaecology : Professor W. I. C. Morris, M.B., F.R.C.S., Manchester University.

218. Other visitors included :—

Lt.-General F. Daubenton, C.B.E., M.D., D.P.H., Director, Regional Office for Africa, World Health Organisation.

Professor R. M. Gordon, O.B.E., M.B., F.R.C.P., Liverpool School of Tropical Medicine.

Dr R. G. Cochrane, M.D., F.R.C.P., British Empire Leprosy Relief Association.

Dr Elmer G. Berry, United State Public Health Service.

Brigadier J. C. Coutts, Deputy Director of Medical Services, West Africa Command.

Dr Rheinalt Jones, Johannesburg.

Dr Hemerych, Chief Leprosy Officer, Belgian Congo.

S. L. A. MANUWA,
Inspector-General of Medical Services



INFANT WELFARE—WEIGHT RECORDING



TUBERCULOSIS SURVEY—INSPECTION OF NEWLY ARRIVED MOBILE X-RAY UNIT



ONCHOCERCIASIS—EXAMINATION BY MEDICAL FIELD UNIT STAFF AT RUKUBA, PLATEAU PROVINCE



LEPROSY-INFECTED MOTHER FEEDING HER CHILD.
THERE IS NO SATISFACTORY ALTERNATIVE FEEDING
FOR AFRICAN CHILDREN



ONCHOCERCIASIS—CLOSE UP OF SKIN SNIP TAKEN
FOR MICROSCOPICAL EXAMINATION



LEPROSY INSPECTOR ADDRESSING COUNCIL OF SEGREGATION VILLAGE OF UTURU



LEPROSY—CHILDREN LINING UP FOR DAILY D.A.D.P.S. TABLET AT UZUAKOLI, EASTERN NIGERIA

TABLE I
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1951-52—
GOVERNMENT AND NATIVE ADMINISTRATION HOSPITALS
ALL RACES

No.	Diseases	In- patients	Deaths	Out- patients	Deaths
1	Typhoid and Paratyphoid fever	67	11	22	—
2	Plague	—	—	—	—
3	Scarlet fever	1	1	—	—
4	Whooping cough	236	11	1,785	—
5	Diphtheria	5	2	—	—
6	Tuberculosis of the respiratory system ..	1,016	350	944	3
7	All other forms of tuberculosis	518	31	982	—
8	Purulent infection and septicaemia (non- puerperal)	414	34	1,343	—
9	Dysentery	3,223	211	19,710	—
10	Malaria	10,667	257	146,327	1
11	Syphilis	5,587	70	14,289	—
12	Yellow fever	9	6	1	—
13	Smallpox	1,391	271	230	—
14	Rabies	17	14	11	—
15	Typhus fever	9	1	1	—
16	Diseases due to helminths	5,008	38	67,970	—
17	Other infective or parasitic diseases ..	7,661	372	4,826	2
18	Cancer and other malignant tumours of the buccal cavity and pharynx	19	2	43	—
19	Cancer and other malignant tumours of the digestive organs and peritoneum	66	17	269	—
20	Cancer and other malignant tumours of the respiratory system	6	2	4	—
21	Cancer and other malignant tumours of the uterus	20	2	54	—
22	Cancer and other malignant tumours of the breast	11	2	15	—
23	Cancer and other malignant tumours of other or unspecified organs	205	20	205	—
24	Non-malignant tumours or tumours of undeter- mined nature	761	29	984	—
25	Rheumatic fever	176	3	885	—
26	Chronic rheumatism and gout	1,389	45	72,995	—
27	Diabetes	217	13	282	—
28	Diseases of the thyroid and parathyroid glands	142	7	398	—
29	Other general diseases	209	19	5,013	—
30	Vitamin-deficiency diseases	543	61	13,772	—
31	Pernicious and other anaemias	1,517	115	13,832	—
32	Leukaemias and other diseases of the blood and blood-forming organs	419	32	3,389	—
33	Chronic or acute alcoholism	22	2	11	—
34	Other chronic poisonings	43	7	10	—
35	Diseases of the medulla and spinal cord, other than locomotor ataxia	189	55	20	—
36	Non-meningococcal meningitis	31	4	54	—
37	Intra-cranial lesions of vascular origin ..	360	91	715	—
38	Mental disorders and deficiency	331	26	160	—
39	Epilepsy	255	21	413	—
40	Other diseases of the nervous system	727	54	11,004	—
41	Diseases of the eye, ear and their annexa ..	3,563	14	19,146	—
42	Pericarditis (including chronic rheumatic peri- carditis)	23	2	32	—
43	Chronic affections of the valves and endocar- dium	88	19	138	—

TABLE I—*continued*
RETURN OF DISEASES AND DEATHS FOR THE YEAR 1951-52—
GOVERNMENT AND NATIVE ADMINISTRATION HOSPITALS
ALL RACES

No.	Diseases	In- patients	Deaths	Out- patients	Deaths
44	Diseases of the myocardium, including aneurysm of the heart	242	47	270	—
45	Diseases of the coronary arteries and angina pectoris	12	2	12	—
46	Other diseases of the heart	516	147	897	—
47	Arteriosclerosis and gangrene	142	18	114	—
48	Other diseases of the circulatory system ..	1,666	15	9,692	—
49	Bronchitis	2,834	39	80,067	—
50	Pneumonia and broncho-pneumonia	5,395	543	4,029	—
51	Pleurisy (non-tuberculous)	294	21	2,759	—
52	Other diseases of the respiratory system except tuberculosis	847	35	13,284	—
53	Ulcer of the stomach or duodenum	356	22	3,719	—
54	Diarrhoea and enteritis (under two years of age)	917	119	14,157	—
55	Diarrhoea, enteritis and ulceration of the intestines (two years of age and over)	2,893	93	33,357	—
56	Appendicitis	191	6	79	—
57	Hernia and intestinal obstruction	8,285	213	6,468	—
58	Cirrhosis of the liver	268	49	186	—
59	Other diseases of the liver and biliary passages, including biliary calculi	1,845	140	62,548	—
60	Other diseases of the digestive system ..	2,653	124	34,614	—
61	Other diseases of the kidneys and ureters ..	586	85	655	—
62	Nephritis	260	21	272	—
63	Calculi of the urinary passages	100	6	205	—
64	Diseases of the bladder, except tumours ..	456	231	2,184	—
65	Diseases of the urethra, urinary abscess, etc. ..	1,044	33	2,709	—
66	Diseases of the prostate	60	—	42	—
67	Other diseases of the genital organs, not specified as venereal or connected with pregnancy or the puerperal state	7,113	68	22,726	—
68	Diseases and accidents of pregnancy	1,928	253	3,295	—
69	Abortion without mention of septic conditions	2,293	12	1,700	—
70	Post-abortion infection	89	2	62	—
71	Infection during child birth and the puerperium	160	12	19	—
72	Other accidents and diseases of child birth and the puerperium	9,749	124	158	—
73	Diseases of the skin and cellular tissues ..	12,519	102	184,573	—
74	Diseases of the bones and organs of movements, except tuberculosis and rheumatism ..	1,580	22	16,239	—
75	Congenital malformations (still-births excepted)	141	18	202	—
76	Congenital debility	99	14	1,658	—
77	Premature birth (still-births excluded) ..	296	50	14	—
78	Injury at birth (still-births excluded)	7	—	12	—
79	Other diseases peculiar to the first year of life ..	250	52	1,557	—
80	Senility, old age	131	22	286	—
81	Suicide	21	3	3	—
82	Homicide	74	4	17	—
83	Automobile accidents (all motor-driven road vehicles)	508	24	761	—
84	Other violent or accidental injuries (automobile accidents excepted)	10,499	395	120,615	—
85	Injuries of persons in military service during, and of civilians due to, operations of war ..	13	—	148	—
86	Causes of illness unstated or ill-defined ..	1,324	65	22,083	—
87	Other diseases	698	11	3,459	—
88	Normal delivery	10,001	34	174	—
	TOTAL	138,516	5,640	1,054,400	6

TABLE II
SUMMARY : RETURN OF DISEASES AND DEATHS—1951-52
ALL RACES

No.	Diseases	In-patients				Out-patients	
		Cases	Per Cent	Deaths	Per Cent	Cases	Per Cent
6	Tuberculosis, respiratory ..	1,016	0.7	350	6.2	944	0.1
7	Tuberculosis, other	518	0.4	31	0.5	982	0.1
10	Malaria	10,667	7.7	257	4.6	146,327	13.9
9, 54-55	Dysentery, diarrhoea and enteritis	7,033	5.1	423	7.5	67,224	6.4
11	Syphilis	5,587	4.0	70	1.2	14,289	1.4
16	Diseases due to helminths ..	5,008	3.6	38	0.7	67,970	6.4
26	Chronic rheumatism and gout	1,389	1.0	45	0.8	72,995	6.9
41	Eye and Ear Diseases ..	3,563	2.6	14	0.2	19,146	1.8
49-52	Respiratory Diseases excluding tuberculosis	9,370	6.6	638	11.3	100,139	9.5
57	Hernia and Intestinal obstruction	8,285	5.9	213	3.8	6,468	0.6
58-59	Diseases of liver and biliary passages	2,113	1.5	189	3.4	62,734	6.0
53, 56, 60	Other diseases of digestive system	3,200	2.3	152	2.7	38,412	3.6
61-67	Genito-urinary diseases ..	9,619	6.9	444	7.9	28,793	2.7
68-72	Diseases of pregnancy and puerperium	14,219	10.3	403	7.1	5,234	0.5
73	Diseases of skin and cellular tissue	12,519	9.0	102	1.8	184,573	17.5
81-85	Injuries	11,115	8.0	426	7.6	121,544	11.5
88	Normal Delivery	10,001	7.2	34	0.6	174	0.002
	All other diseases	23,294	16.9	1,811	32.1	116,452	11.0
	Total	138,516		5,640		1,054,400	

TABLE III
LABORATORY SERVICE—SUMMARY OF WORK

	Lagos including Igbobi Hospital	Northern Region	Eastern Region	Western Region	Leprosy Service	Total
Number of Laboratories	2	9	8	5	5	29
<i>Clinical Pathology</i>						
Blood films	11,708	23,482	16,702	4,495	6,943	63,330
Blood films with malaria parasites	1,118	5,880	3,360	1,637	1,455	13,450 { P. falciparum—13,379 P. malariae—60 P. vivax—7 P. ovale—4
Percentage positive for blood films with malaria parasites	9.6	24.6	20.1	36.4	21.0	21.2
R.B.C. counts and Haemoglobin	2,883	1,855	1,374	756	1,347	8,215
W.B.C. counts	2,433	1,657	1,345	439	1,628	7,502
Blood grouping	965	—	—	—	—	965
Blood grouping, Rh	301	—	—	—	—	301
Sedimentation rate	280	481	21	—	913	1,695
Other blood examinations	109	71	10	4	874	1,068
Stool examinations	6,181	20,444	12,434	4,507	6,157	49,723
Urine examinations	7,293	23,690	12,146	5,261	5,345	53,735
Sputum examinations	2,762	2,823	2,414	1,101	387	9,487
Smears, urethral, vaginal	3,824	2,986	1,697	2,224	51	10,782
Other smears, mostly for leprosy	482	138	178	37	19,488	20,323
Biochemical	811	329	64	15	971	2,190
Histological	897	355	—	1	—	1,253
Miscellaneous	794	876	504	174	275	2,623
Post mortem examinations	1,089	221	62	100	9	1,481

TABLE III—continued

Bacteriology	Lagos including Igbobi Hospital		Northern Region		Eastern Region		Western Region		Leprosy Service		Total	
	No.	Positive	No.	Positive	No.	Positive	No.	Positive	No.	Positive	No.	Positive
Serology												
Widal	226	77	202	118	46	33	—	—	—	—	474	228
Weil Felix	151	—	79	37	43	3	—	—	—	—	273	40
Br. abortus	18	—	23	3	3	—	—	—	—	—	44	3
Kahn (blood)	11,589	7,731	3,233	1,258	1,991	524	—	—	726	218	17,539	9,731
Kahn (c.s.f.)	87	49	4	1	4	—	—	—	—	—	95	50
Ide	660	159	3,366	2,903	7,531	2,846	3,265	1,797	292	106	15,114	7,711
Paul Bunnell	9	2	—	—	—	—	—	—	665	?	674	?

	Lagos including Igbobi Hospital		Northern Region		Eastern Region		Western Region		Leprosy Service		Total	
Cultures												
Blood	74	..	14	..	..	24	112		
Stool	1,014	..	136	..	..	136	1,286		
Urine	98	..	25	..	..	25	148		
Rodent Smears	9,657	..	3,020	..	..	—	12,677	All negative for <i>P. pestis</i>	

Rabies	Brains examined	131
	Brains positive	43 (Human 3 ; dog 37 ; cat 3)
	Vaccine produced	168,920 c.c.
Smallpox Vaccine		
	Number of sheep used	741
	Pulp obtained	24,856 grams
	Pulp treated with glycerin-phenol	16,372 grams
	Pulp treated with phenol-saline	8,484 grams
	Amount tubed	224,236 tubes
	Amount issued	234,658 tubes

SMALLPOX IN NIGERIA : NOTIFIED CASES.

1947 - 52

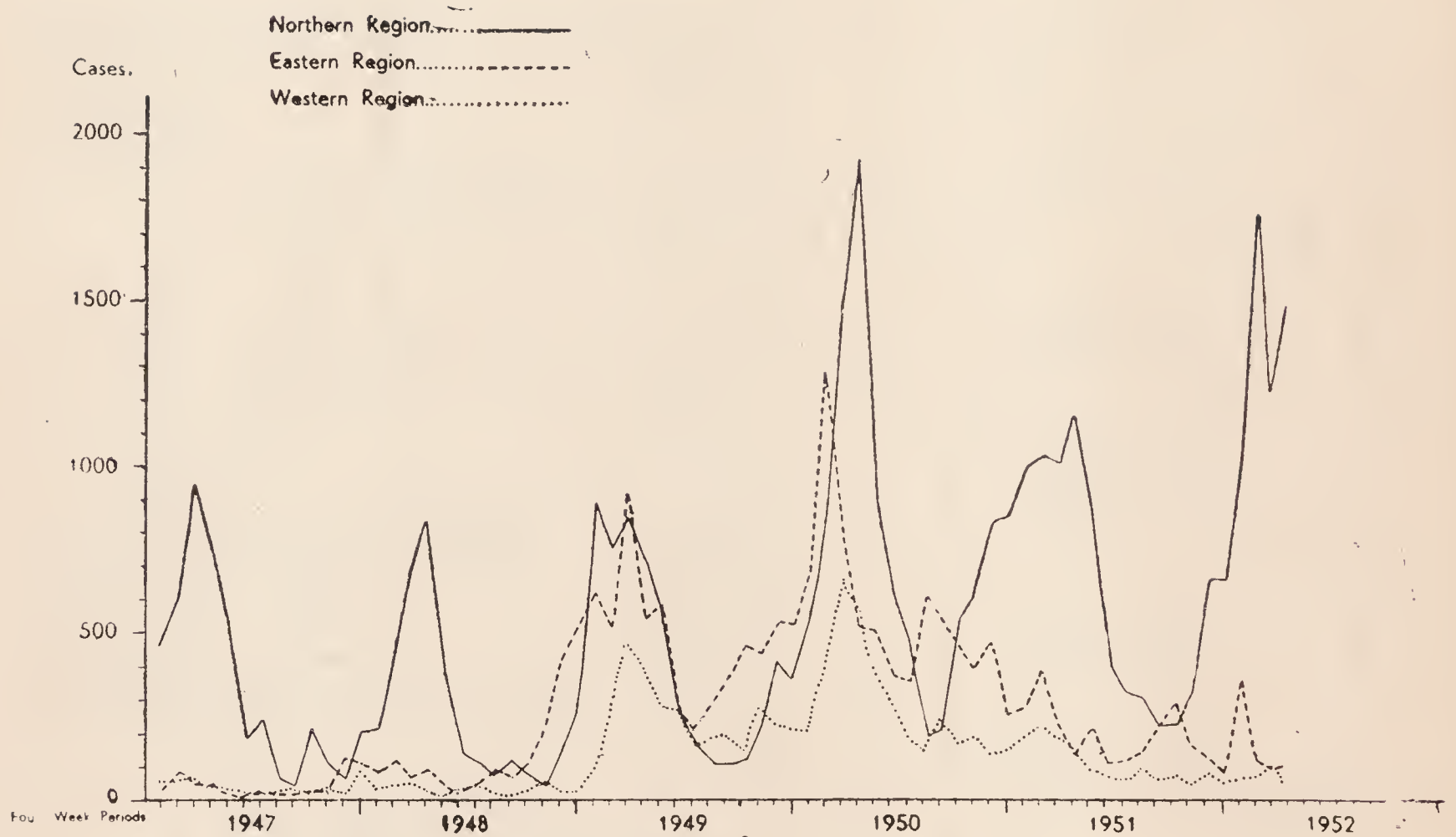


DIAGRAM 1
 GOVERNMENT AND NATIVE ADMINISTRATION HOSPITALS:
 IN-PATIENTS, 1951-52.
 TOTAL DISEASES RECORDED 138,516.

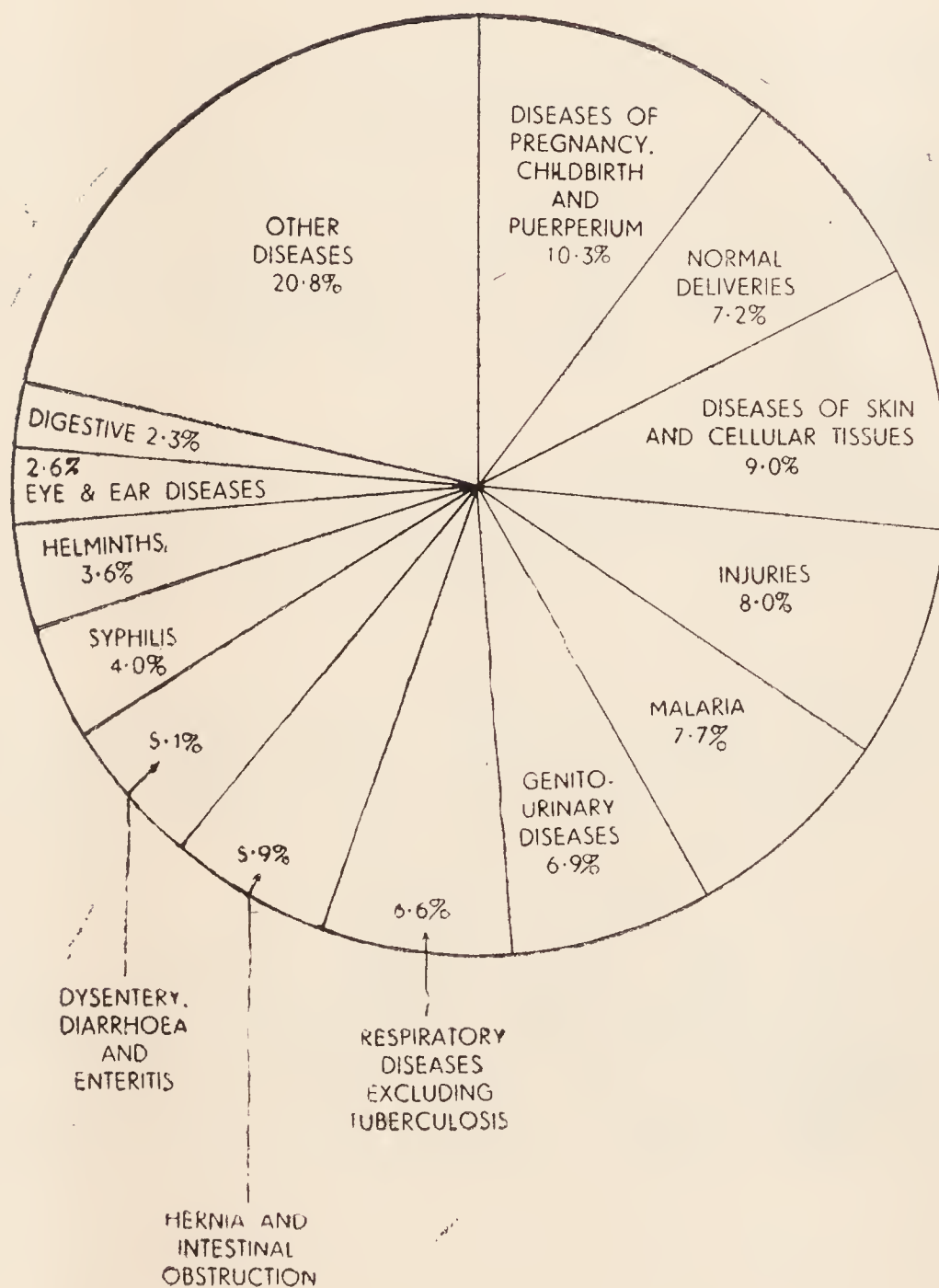
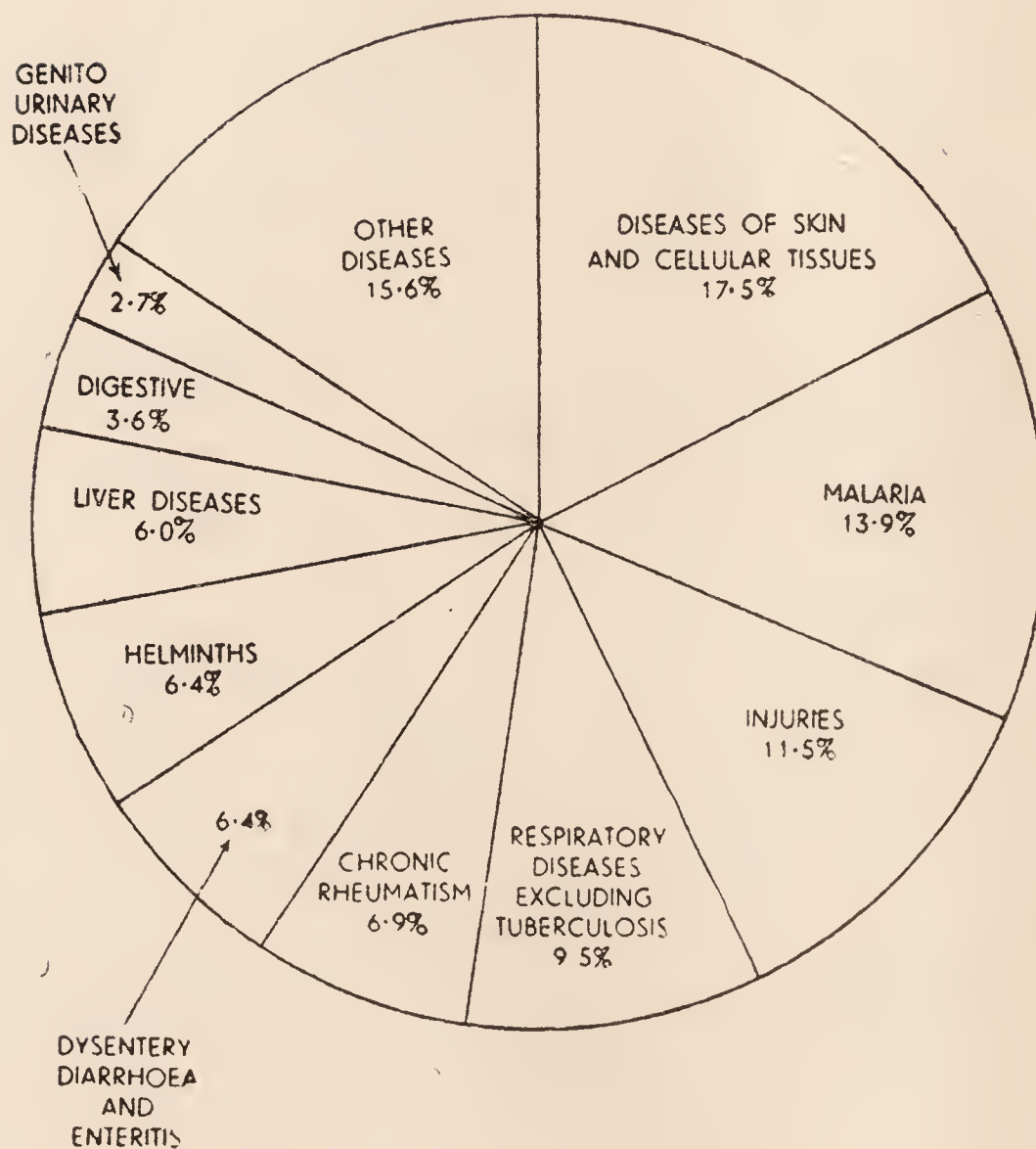


DIAGRAM II
 GOVERNMENT AND NATIVE ADMINISTRATION HOSPITALS
 OUT-PATIENTS 1951-52
 TOTAL DISEASES RECORDED 1,054,400.



APPENDIX I

CENTRAL FUNCTIONS OF MEDICAL DEPARTMENT

NOTE.—Items marked with an asterisk * are matters to which the executive authority of Regions extends (see also page 75 *Nigeria Gazette* No. 6, Vol. 3, of 24th January, 1952).

General Functions

*Public Health and Sanitation. *Hospitals and Dispensaries. *Vital Statistics. Dangerous Drugs. International Conventions on Public Health. Professions of Nursing and Midwifery. Pharmacy. Professions of Medicine, Dentistry and Pharmacy. Quarantine Administration. Mental Health*. Senior Service Health Records. International Notification of Infectious Diseases.

Training

Chemists and Druggists. Medical Field Unit Assistants. Assistant Physiotherapists.

Specialist Organisations and Research Services.

Malaria Service. Mental Health. Tuberculosis Survey. Vaccine Production and Forensic Science. Virus Diseases. Leprosy Research. Hot Climate Physiology. Helminthiasis.

Staff Matters

All establishment matters for officers and staff on Nigerian establishment. Conditions of Service (Policy)—all staff. Senior Service (Regional)—recruitment, superscale promotions, transfers in exceptional cases.

Central Boards

Pharmacy Board. Nursing Council. Midwives Board. Disciplinary Committee Medical and Dental Practitioners. Board of Medical Examiners. Leprosy Board. Royal Sanitary Institute (West Africa) Examination Board.

Central Institutions

Igbobi Orthopaedic Hospital. Forensic Science Unit. Aro Mental Hospital, Abeokuta. Laboratory Headquarters. Virus Research Institute. Helminthiasis Research Unit. Malaria Research Unit. Hot Climate Physiological Research Unit. Leprosy Research Unit. Central Medical Stores. Pharmacy School, Yaba. Medical Field Unit School, Makurdi. School of Physiotherapy.

APPENDIX II

REGIONAL DEPARTMENTAL ORGANISATION

<i>Region</i>	<i>Headquarters</i>	<i>Medical Divisions</i>	<i>Provinces</i>	<i>Medical Areas</i>
NORTHERN	Kaduna	1. Jos	Plateau	Jos, Barakin Ladi, Kafanchan, Pankshin.
			Bauchi	Bauchi, Azare
			Adamawa	Yola
		2. Kano	Kano	Kano, Hadejia
			Katsina	Katsina
			Bornu	Maiduguri
		3. Makurdi	Benue	Makurdi, Wukari
			Kabba	Lokoja, Idah
		4. Zaria	Zaria	Zaria, Kaduna
			Sokoto	Sokoto, Gusau, Birnin Kebbi
			Niger	Minna, Bida
			Ilorin	Ilorin, Offa
EASTERN ..	Enugu	1. Enugu	Onitsha	Enugu, Onitsha
			Ogoja	Ogoja, Abakaliki, Obubra
		2. Aba	Owerri	Aba, Owerri, Okigwi, Umuahia
			Calabar	Calabar, Ikot Ekpene, Opobo
			Rivers	Port Harcourt, Degema, Ogoni
		3. Victoria	Cameroons	Victoria, Kumba, Mamfe
			Bamenda	Bamenda
WESTERN ..	Ibadan	1. Ibadan	Oyo	Ibadan, Oshogbo
			Ijebu	Ijebu-Ode, Shagamu
			Abeokuta	Abeokuta
		2. Benin	Benin	Benin, Agbor
			Warri (Delta)	Warri, Sapele, Forcados
			Ondo	Akure
		3. Lagos	Colony	Lagos

APPENDIX III

MEDICAL FIELD UNITS

Benue Province

Staff was transferred to Bauchi on cerebrospinal fever duty, and to Udi Division for yellow fever control, in addition to assisting in smallpox and cerebrospinal fever control within Benue Province. Several field posts have been maintained in Tiv Division, and intensive work against yaws, allied with general preventive measures, is being planned in two areas. The unit treated 47,000 patients and did 24,422 vaccinations.

Bornu Province

2. Detailed surveys were made of 4,490 people in seven localities, a summary of the findings being :—

Malaria.—The spleen rate average is 29.9 per cent and varied little from this figure at individual surveys.

Skin Diseases.—12.2 per cent had ulcers, the range being from 0.6 to 27.2 per cent.

Bilharziasis.—30.5 per cent had *B. haematobium* and 3.6 per cent *B. mansoni*.

B. mansoni was rare except in the hilly Biu Emirate where rates in three areas were between 6.0 and 8.1 per cent. This high incidence of the more serious intestinal infestation cannot be viewed with equanimity ; snail control in the larger villages is being planned.

Ankylostomiasis.—Only 12.4 per cent of stools had ova but using the Macmaster slide concentration method 37 per cent of 293 specimens were positive. However, the worm-load is small, only one of 109 specimens yielding over 1,000 ova per gram of faeces. Infestations heavy enough to cause severe anaemia must therefore be rare.

Balantidium coli.—149 stools were reported to contain a large protozoon similar to *Bal. coli*; its presence did not seem to cause symptoms.

Nutrition.—A mild degree of anaemia (under 75 per cent Sahli) was found in over two-thirds of those examined, but only 6 per cent had under 55 per cent haemoglobin, and 0.2 per cent under 45. Only 7 per cent of 568 prisoners were anaemic.

Trypanosomiasis.—In Biu occasional cases are seen although riverine tsetse and *G. morsitans* are present in the division.

Vaccination.—The receipt of a refrigerator and the transmission of lymph in thermos flasks has done much to preserve the potency of the lymph.

Vital Statistics

3. The 249 women found pregnant at past surveys were followed up at six-monthly intervals and the following figures recorded :—

				Average per cent	Range per cent
Still-births, including miscarriages	..			16.5	7.7-22.2
Neonatal Death Rate	..	..	..	16.5	8.7-22.4
Infant Mortality Rate	..	..	..	38.8 (one area only)	
Maternal Mortality Rate	..	..	..	1.6	—

4. Questions on their reproductive history put to 1,215 women over fifteen years of age gave the following figures, probably accurate as regards fertility and living children but under-estimated for total children, deaths and prenatal deaths :—

(1) Nulliparous women over forty-five years	..	15 out of 75	20 per cent
(2) Total children born alive to 1,215 women	..	4,181	
(3) Total children still alive .. .. .	..	1,942	46.4 per cent
(4) Miscarriages and still-births .. .. .	..	451	
(5) Reproductive Rates, estimated :			
(a) as living female pregnancy per woman over forty-years .. .. .	..	0.98	
(b) as female children over fourteen, divided by total women fifteen to forty-five years ..	..	0.94	

These figures indicate (a) a static population or (b) a declining population.

(6) Child mortality in 4,181 children : 1,586 (37.9 per cent) were reported to have died before the age of two years, and a further 544 (13.0 per cent) by the age of puberty, giving a child mortality of 50.9 per cent. The highest rate was at Kwuya Tera—63.3 per cent.

5. The unit Medical Officer attended two meetings with French Officers, and made forty-five visits to dispensaries, mission dispensaries and schools. He considers that surveys and necessary anti-epidemic work should occupy the unit for a further two years, the unit thereafter being divided into two sections, one with the Medical Officer for detailed surveys, mass treatment and school examinations, the other under the superintendent for vaccination campaigns, anti-malaria work, snail eradication and sanitary improvements. He also recommended additional specialised training of dressers.

Sokoto Province

6. The unit undertook three surveys in rural areas, investigation of venereal diseases and examination of school children in Sokoto town, routine vaccinations, investigation of snails, and a fertility census.

7. The Rabah survey revealed 23 per cent urinary bilharzia, 32 per cent hookworm, and deficiency of vitamin C. The provision of protected wells was considered of pressing importance. At Kwarre 37 per cent had urinary bilharzia, 15 per cent vitamin C deficiency and 34 per cent syphilis. The Gummi survey of 7,000 people is being completed. This area of the Zamfara valley is unhealthy and morbidity is high. About half the people have urinary bilharzia, in 43 per cent the Ide Test for syphilis is positive, and vitamin C deficiency is common. In Sokoto town the incidence of syphilis is estimated at 30 per cent.

8. A general picture of disease incidence in Sokoto Province is emerging. Urinary bilharzia is present everywhere, local variations being influenced by geographical factors, *e.g.* low incidence of 12 per cent found in upland country at Yabo in 1950-51. Guinea worm is localised. Scabies was common at Gummi and of a severe nature, with much secondary infection; it responded well to tetmosol in palm oil, alone or combined with sulphathiazole in infected cases. The incidence of syphilis may be very high. At Gummi, in addition to the common secondary and tertiary lesions, congenital syphilis with keratitis, pemphigus, leukoplakia and cerebral symptoms were noted. Assessment of nutritional status is difficult but vitamin C deficiency was considered the most important; lack of vitamin A and of the B Group was also noted; malnutrition was especially evident in weaned children, the aged and the sick; anaemia is common but usually of slight degree, about 60 per cent having a haemoglobin below 80 per cent Sahli.

Plateau Province

9. Two surveys were made in addition to vaccination campaigns and investigations of epidemics. In the Southern Division, 1,194 cases of yaws were treated. A low incidence of bilharzia (*B. mansoni*—1.4 per cent; *B. haematobium*—0.9 per cent) was discovered in Jos school children. *Physopsis africana*, *Biomphalaria pfeifferi* and *Pyrgophysa forskalli* were identified in a stream at the outskirts of the town. Their control should be possible.

“Jos Jaundice”

10. An explosive outbreak of this disease occurred simultaneously in scattered villages in October, towards the end of a prolonged rainy season. Investigation made in four village areas revealed that of ninety-two deaths sixty had been in adult males, twenty-eight in adult women, and only four in children; the majority had been in the age group twenty-five to thirty-five. Mosquito breeding was abundant; mosquito transmission was considered and spraying of compounds instituted. The selectivity

of the disease for adult men was later considered to be against a mosquito-borne virus infection, and a relationship was postulated to the drinking of beer made from a mixture of grains, much of which showed fungoid growth. Investigations of viscerotome and serum specimens ruled out yellow fever. Clinically, the disease was characterised by sudden onset ; fever ; frontal headache ; lumbar pain ; asthenia ; anorexia, and epigastric discomfort. Neck rigidity and Kernig's sign were absent. The throat was usually congested and haemorrhages were common—epistaxis, melaena, haemoptysis, haematemesis and microscopic haematuria. Jaundice was usual on the third day. The liver was in many cases tender and enlarged, the spleen usually not enlarged. Nearly all cases had albumin and bile in the urine. Some patients conformed fairly closely to cases of infective jaundice ; in others there was a superadded, and marked, toxic element.

Cameroons Field Unit

11. Assistance was given by this unit to the Helminthiasis Research staff in and near Kumba. Systematic surveys were made in Bamenda and Kumba to establish levels of incidence of yaws and helminthic infestations, and special studies were made on bilharzia and paragonimiasis. All conditions found were treated. It was noted that the attitude to vaccination was much less hostile when this was part of general mass survey and treatment campaigns.

Rivers Province

12. The unit was established with a Medical Officer in mid-1951, but surveys in the Degema area were delayed as a result of the Udi yellow fever epidemic.

Onitsha-Owerri Field Unit

13. No senior staff was available and junior personnel either remained in training in the Northern Region or were engaged on vaccinations or on yaws work at Okigwi under the local Medical Officer.

14. All three Eastern Region units were mobilised and transferred to the Udi Division in December 1951, on the notification of the outbreak of yellow fever. They proved of great value in the large scale measures adopted and the epidemic was brought rapidly under control due largely to their efficiency.

Abeokuta Province

15. The scope of work was increased following the posting of a Medical Officer. A morbidity survey including an enquiry into the sociological background of the population was done at Otta. Treatment for yaws and venereal diseases was started at Ilaro and dressers were posted to Native Administration dispensaries to give particular attention to these infections. 23,000 vaccinations were done.

Benen-Warri Field Unit

16. The unit is based on the Auchi Rural Health Centre. Sample surveys were started. Attention was given to yaws and bilharzia in appropriate areas ; over 3,000 cases of yaws were treated ; a focus with 43 per cent of *B. haematobium* was found at Obadan in Benin Division ; and vaccinations in the Kukuruku (Auchi) Division were increased by 11,000. In January this promising beginning was interrupted by transfer of the unit to Udi.

Oyo-Ondo Field Unit

17. Headquarters have been selected at Ado-Ekiti, but most of the junior staff remained in the Northern Region until the end of the year because of lack of senior officers.

APPENDIX IV

LEPROSY CONTROL—C.W.D. SCHEME D.386

The high incidence of leprosy is being countered by large-scale efforts in which Government, Voluntary Agencies and Local Authorities share, each playing a distinctive part. Developments in therapeutics and in organisation have led to rapid expansion and to a serious attempt at control on a nation-wide scale. The size of the problem is indicated by the fact that a very conservative estimate gives the number of cases in Nigeria as 500,000.

Therapeutics

2. The introduction in 1951 of D.A.D.P.S. as the standard anti-leprosy drug throughout Nigeria proved revolutionary. Extensive field experiments at settlements have proved that this drug can be used in segregation villages and out-patient clinics with complications reduced to a minimum. It is now possible to promise a cure within a reasonable time to the majority of patients.

3. Apart from its specific chemotherapeutic value, sulphone treatment has other important effects. A new attitude to leprosy is developed, first in the patient and leprosy worker, later in the community. The disease has been robbed of its seriousness. Hope and a normal mental outlook replace apathy and warped mentality, and the desire for regular treatment is stimulated. The leprosy worker sees control as a practical possibility with himself more an agent of public health than a specialist in a very confined sphere. To the public, leprosy becomes no longer a disease to be dreaded and concealed, and co-operation in its control is much more rapidly given. These fundamental changes impart a great impetus to control measures.

4. Although D.A.D.P.S. has given treatment a new value, the period still needed for that treatment means that isolation has not lost its importance as the primary control measure.

Organisation

5. A comprehensive organisation has been built to declare and effect approved policy, to spread information, to co-ordinate local efforts and to encourage concerted action. It provides for co-operation at all levels between Government, Native Administrations and Voluntary Agencies of all kinds.

6. The Central Leprosy Board, at its second meeting in May, 1951, endorsed the control policy advocated by Government, which is being pursued in all regions with a broad measure of agreement though with considerable variation in progress. The aim, fully described in last year's report, is to provide, in each, seriously affected province, a central settlement with its hospital, laboratory, and full-time Leprologist; the settlement is reserved mainly for highly infective cases, children and those with active disease unable to look after themselves. Based on the settlement, villages for the isolation of infective cases are built as a local responsibility; in them patients live a community life and receive treatment. The success of this system has been amply proven.

7. In the Northern and Eastern Regions there are active Regional Advisory Committees which discuss the regional aspects of leprosy control. Provincial Leprosy Boards have met in eight provinces and have done valuable work in co-ordinating local effort.

The Government Leprosy Service

8. Staff shortages are less acute. The Leprosy Adviser is now a Central Officer but continues to have his headquarters at Oji River Settlement. In addition to his country-wide advisory functions, he supervises training, research and the central stocks and issue of sulphones. Research is described in section XIV. Courses of study are arranged at Oji River for workers from within Nigeria and from other territories.

9. The field work of the service is largely concentrated in the five contiguous provinces of Onitsha, Owerri and Rivers (Eastern Region) and Benin and Warri (Western Region), an area in which the leprosy problem was formerly the most acute in Nigeria. Missions continue to undertake welfare work in three areas within these five provinces, their contribution bringing completeness to the scheme. Administrative Officers, Clan Councils and Voluntary Agencies have aided field work considerably in a variety of ways.

10. There are four Government settlements : Ossiomo, Uzuakoli, Oji River and Rivers. That at Ossiomo serves the two provinces of Benin and Warri. The hospitals at Oji River (Onitsha) and Uzuakoli (Owerri) have been reorganised as teaching hospitals. There are creches for uninfected children, except at the Rivers Settlement. Mission welfare services include almoning, education, trade instruction, agriculture, industries and re-habilitation. A summary of the work of the four settlements is :—

	<i>Eastern Region</i>	<i>Western Region</i>	<i>Total</i>
Patients resident at 31st March, 1952	1,952	1,010	2,962
Hospital Beds	172	31	203
Admission to hospitals from settlements and out-stations ..	1,601	1,182	2,783
New cases diagnosed	2,062	1,206	3,268
Leprosy examinations :			
For <i>M. Leprae</i>	8,506	3,295	11,801
Others	8,456	7,165	15,621

11. Based on these four settlements is an intensive service covering much of the five provinces concerned. Leprosy Inspectors guided by senior staff are responsible for developing and maintaining local segregation villages, treatment clinics, propaganda, surveys, and the follow-up of contacts and discharged patients. During ten years, more than 50,000 patients have received treatment, and over 12,000 have been discharged symptom-free. In 1951-52 twenty-five new segregation villages were opened. The scale of work in the five provinces is shown numerically thus :—

	<i>Eastern Region</i>	<i>Western Region</i>	<i>Total</i>
No. of treatment Clinics.. ..	113	22	135
No. of Segregation villages ..	106	19	125
Segregated patients	5,548	2,272	7,820
Out-patients	13,784	2,895	16,679
Patients discharged symptom-free during the year	5,031	295	5,326
Child contacts under observation	598	246	844
Total patients on sulphone treat- ment, including settlements ..	17,098	2,987	20,085

12. Evidence of a declining leprosy incidence in several localities is now accumulating. Amongst the Bende clan (Owerri) a repeated survey indicated that leprosy had almost disappeared ; the treatment centre is being closed and the few remaining patients transferred to Uzuakoli Settlement.

PROGRESS IN THE REGIONS

Eastern Region

13. Activities in Onitsha, Owerri and Rivers are described above. In Ogoja Province, a serious leprosy problem is being attacked. The Roman Catholic Mission has settlements with full-time Medical Officers at Ogoja and Abakaliki, and six segregation villages ; it had a total of 4,804 patients on 31st December, 1951. In the south of the province, the Presbyterian Church of Biafra operates fourteen centres with 2,528 patients. Elsewhere in the Region incidence is relatively low. Invitations to undertake control measures have been accepted by three missions which will receive grants-in-aid. At Itu, Calabar Province, the historic settlement maintained by the Presbyterian Church of Biafra continues its admirable work. The Qua Iboe Mission has also a small settlement in this province.

Western Region

14. The Leprosy Service, centred on Ossiomo, works in Benin and Warri where high incidence and multiple tribal and language groups present a peculiar problem. Incidence is lower in other parts of the Region, and apart from four segregation villages, the only large-scale work is done at the American Baptist Mission Settlement at Ogbomoshoh (Oyo) which has nine segregation villages and 1,308 patients.

Northern Region

15. A Senior Leprosy Officer has been appointed. Maintenance grants have been given to all Voluntary Agencies co-operating in providing staff and developing and administering provincial settlements. Capital grants have been given for necessary buildings. Native Authorities erect and maintain segregation villages.

16. There are thirteen approved settlements, one in each province except Kabba, which has two. Six of them have hospital and laboratory facilities, which will be provided in three others during 1952-53. A subsidiary, and fourteenth, settlement has been built at Alushi for the Southern Division of Plateau Province where the incidence of 86 per mille is the highest known in Nigeria.

17. Of the forty-nine Northern treatment centres, sixteen are segregation centres for in-patients, six treat out-patients as well as segregated in-patients, and twenty-seven are out-patient clinics only. A total of 14,238 patients are registered, 6,263 being segregated at settlements, 3,045 segregated in villages and 4,930 out-patients. Practically all segregated cases are treated with sulphone drugs.

18. In the North, although incidence and severity vary, leprosy is generally of a severe type with the proportion of lepromatous cases as high as 50 per cent in some areas. Eye involvement, blindness and laryngeal obstruction are relatively common. Burned-out mutilated cases are found in every large market.

APPENDIX V

SLEEPING SICKNESS SERVICE

With usually one Medical Officer and one or two Superintendents on duty, surveys continued under a group of well-tried senior attendants and assistants. Returns for

all team and dispensary surveys were :—

	1951-52	1950-51
Number examined	1,130,868	846,871
New cases of Sleeping Sickness	2,883	3,161
Infection rate per cent	0.255	0.373

2. The total of cases treated, including new cases and relapses, fell by almost 15 per cent, thus :—

	1951-52	1950-51
Teams	1,646	1,985
Mines	65	109
Dispensaries	4,635	5,192
Hospitals and Missions	1,239	1,522
Total	<u>7,585</u>	<u>8,808</u>

3. Of the 7,220 cases treated in the *Northern Region*, 5,310 (74 per cent) came from the three provinces of Benue (2,782), Plateau (1,464) and Zaria (1,064).

4. In the Lere District of Zaria Province infection rates of 1.47 and 2.78 per cent were discovered near an area reserved for puparia collection, and in one village the uninfected people were given prophylactic pentamidine.

5. No break through in pentamidine prophylaxis was observed in Plateau mining and timber camps, although 0.35 per cent of labourers (65 cases : 18,552 examined) were found infected before pentamidine was administered. Surveys in the Shendam Division, where special watch is kept as uninhabited areas are opened up or occupied by migratory Tiv people from Benue Province, showed incidences varying from 0.275 to 0.70 per cent.

6. In Benue Province itself, where the relapse rate is about 30 per cent in some areas and a new treatment centre was opened at Gboko, the incidence found at surveys was 0.303 per cent (1,049 cases : 346,702 examined).

7. Katsina Province has benefited from survey and tsetse eradication work since 1945 when epidemic conditions arose in Galadima District. As a result incidence is now very low, 0.058 per cent (51 cases : 87,841 examined), and the total of cases treated was only 162 as compared to 2,000 five years ago.

8. In Kano, one team worked west-wards along the Hadejia river system, where there is an old grumbling focus of infection and rates of 9 per cent had been reported in fishing villages. A second team re-surveyed the Kiru and Kura Districts. Their combined findings were : 475 cases in 348,098 people examined (0.126 per cent). Kano dispensary re-surveys gave a higher incidence at 0.465 per cent.

9. Two teams were also at work in Niger Province and foci with 3 per cent incidence were found in Bida. Latterly one of these teams crossed to the Lafiagi-Pategi Division of Ilorin where no work has been done for twelve years. A touring assistant has been placed in charge of the dispensaries in the Hadejia-Katagum-Bedde area, in the Katagum (Bauchi) part of which most cases seem to come from Kano, and in the Bornu part of which only thirty-four cases were diagnosed. In Western Bauchi a general incidence of 1.3 per cent around Rishi (Lame District) was partly attributable to mining camps where the incidence was 3 per cent.

10. In the *Eastern Region* dispensary work and village surveys continued in Ogoja, where 266 cases were diagnosed. Surveys were done in the Mamfe Division of Cameroons ; many small foci of low incidence were discovered, the overall infection rate being 0.405 per cent (68 cases in 17,055 examined).

11. In view of the rising relapse rate, drug trials with the newer melaminyl arsenicals have continued. Pentamidine and tryparsamide treatment is gradually replacing the older antrypol-tryparsamide courses.

12. The distribution of all cases of trypanosomiasis is given in Table IV.

TSETSE CONTROL

13. A revised plan for eradication of riverine fly by partial clearance in Katsina, Kano and Zaria was approved and a further £77,430 granted towards its cost in the next five years by the Northern Region Production Development Board. During the same time the expenditure in this area from the Sleeping Sickness Service Estimates will probably be about £75,000. Although progress was slowed down in early 1952 by withdrawal of staff for work against *G. morsitans* in central Zaria, the total mileage of stream cleared was :—

								miles
Western Kano	..	..	..	..	..	..	..	300
Southern Katsina	..	..	..	..	..	..	..	262
Northern Zaria	..	..	..	..	..	..	..	119
								<hr/> 681 <hr/>

14. This represents about 700 square miles of densely settled and productive land rendered fly-free.

15. Work done by control staff elsewhere was :—

Southern Zaria	..	..	12 miles new clearance and 10 miles reclearance
Kafanchan	..	..	14 miles new clearance
Gboko	..	..	20 miles new clearance

16. Settlement Scheme staff in Shendam and Kontogora also undertook work as advised by the officers of this service.

17. Entomologists carried out very extensive fly surveys in Shendam, Pankshin, Bauchi and Adamawa. The Matyoro Lakes in Gombe, cleared in 1927, were visited. With the exception of the middle lake, whose level had been raised by a dam and where there had been no regeneration, re-growth had been marked, the old clearings could not be recognised, and fly abounded. The obvious lesson is the well-known one, that all clearance, whether against riverine or woodland species, must be backed up by proper land use and by resettlement if necessary. A possible fly-free settlement area was found in the Wawa Bush in Gombe, but at Beba Habe riverine vegetation was very dense and clearance would be costly.

18. In the Fali and Duguri districts of Bauchi the distribution of *G. morsitans* was studied. In areas free of *morsitans* the distribution of *G. tachinoides* was patchy and its eradication may be easy and cheap. In parts of Adamawa also, riverine species were found to be not nearly so widespread as had been suspected and considerable areas might be made safe for cattle at low cost.

19. Since 1944 *G. morsitans* in central Zaria has reached the Jos-Kaduna road in two places. At Pambeguwa the situation appeared static until 1950 when the road was crossed. The heavy 1951 rains caused alarming advance into and beyond forest reserves near the southern tip of the Anchau tsetse-free corridor, and many cattle died of trypanosomiasis. Further extensions into other Zaria reserves, into the Tudun Wada district at Kano and into parts of Bauchi, were feared. With the advice of the Chief Entomologist of West African Institute of Trypanosomiasis Research, control staff of the Sleeping Sickness Service and Administrative and Development Officers are utilising Production Development Board funds to carry out an emergency campaign of stream and barrier clearance, which, re-inforced by subsidiary methods of control and by game driving, may halt the advance. In the last two months of the year 130 miles of river bank were cleared and six and a half square miles of bush clearance was done.

TABLE IV
DISTRIBUTION OF ALL CASES OF HUMAN TRYPANOSOMIASIS, 1951-52

Province	Surveys and resurveys	Mines	Dispensaries	Hospitals	Missions	Total
NORTHERN REGION						
Bauchi	216	—	387	10	—	613
Benue	510	—	1,754	162	356	2,782
Bornu	—	—	50	—	—	50
Kano	475	—	161	143	—	779
Katsina	50	—	112	—	—	162
Niger	108	—	82	110	—	300
Plateau	186	65	891	127	195	1,464
Zaria	3	—	980	—	81	1,064
Ilorin	—	—	—	1	—	1
Adamawa	—	—	—	—	5	5
Sokoto	—	—	—	—	—	—
Kabba	—	—	—	—	—	—
Total, Northern Region	1,548	*65	4,417	553	637	7,220
EASTERN REGION						
Ogoja	30	—	217	19	—	266
Rivers	—	—	1	—	—	1
Cameroons	68	—	—	28	—	96
Total, Eastern Region	98	—	218	47	—	363
WESTERN REGION						
Total	—	—	—	2	—	2
Total, Nigeria ..	1,646	65	4,635	602	637	7,585

* Bauchi mining camp cases are included under re-surveys and dispensaries.

APPENDIX VI

MALARIA SERVICE—THE ILARO ERADICATION SCHEME

The rationale of this scheme was very fully described in last year's report. Results so far can be summarised thus :—

1. A spectacular decrease of *A. funestus* adults has occurred. The average number caught per day has dropped from 2.5 in 1949 to 0.005 in 1951.

2. *A. funestus* larval breeding diminished from about twenty larvae per 100 dips in April-May, 1950 to between *nil* and 0.2 during the period June, 1950 to December, 1951.

3. Comparative figures for *A. gambiae* are :—

(1) Adults per room/day : 3.3 during the second half of 1949 ; 0.2 in the same period of 1950 ; 0.4 during 1951.

(2) Larval index : about 150 per 100 dips in April 1950 ; about ten in late 1950 ; eighteen in the prolonged 1951 rainy season.

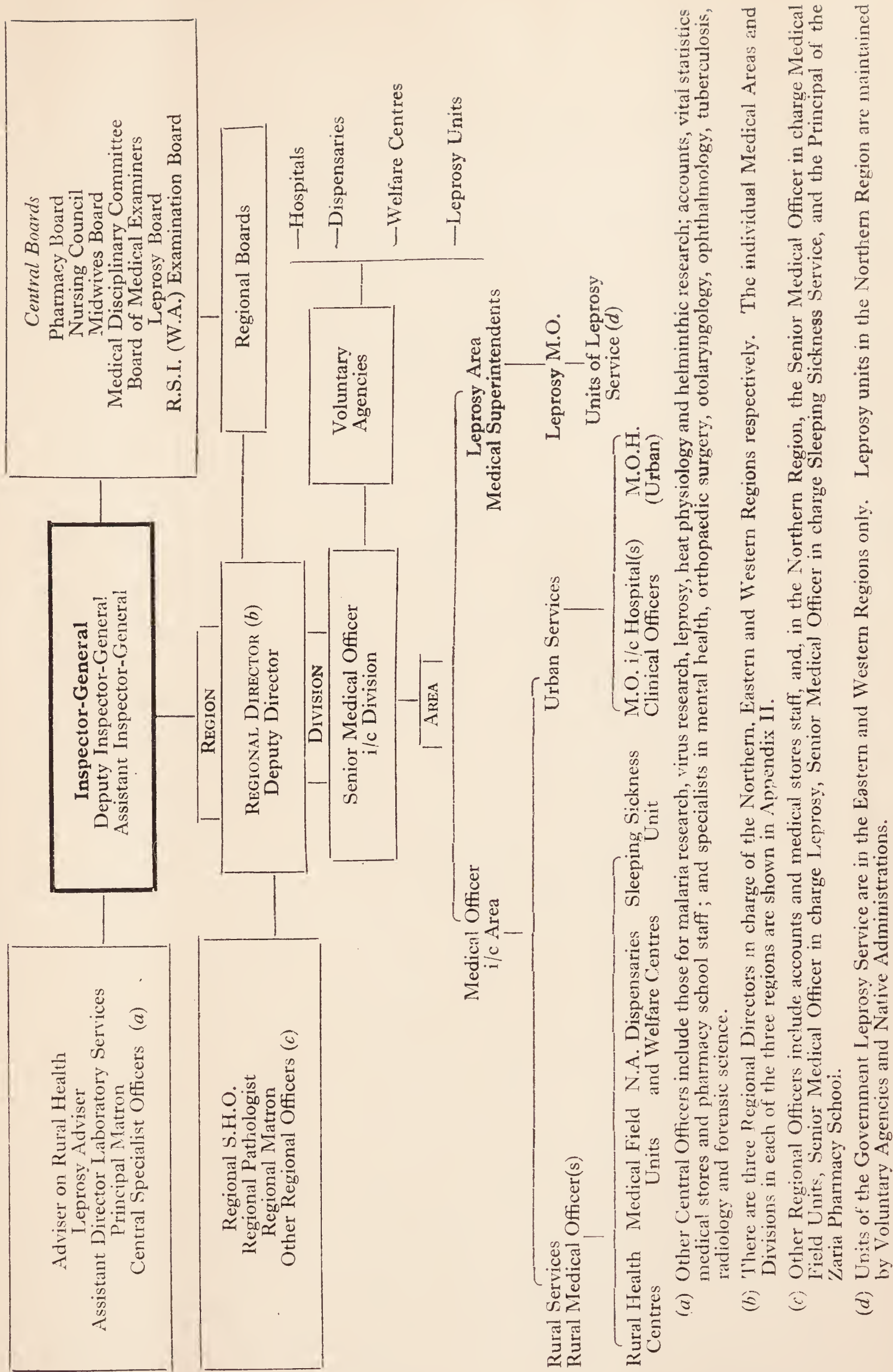
4. Infectivity of *A. gambiae* fell from 6.3 per cent in 1949 to 3.3 in 1950 and to 0.12 in 1951. Infectivity of *A. funestus* fell spectacularly from 3.5 in 1949 to *zero* in 1950 and 1951.

5. The decrease of malariometrical indices in the local population is disappointingly slow, not an unexpected finding in a malaria-saturated area. In infants the reduction in parasite rate has been from 23 per cent in 1949 to 9.8 per cent in 1951 ; in children of between one and two years of age from 80 to 37 per cent.

6. The registry of vital statistics shows an increase of live births and a decrease of infant mortality.

7. The average cost is 5s per head of population per year.

APPENDIX VII
DEPARTMENTAL ORGANISATION
MEDICAL DEPARTMENT, NIGERIA, 1951-52



MEDICAL FACILITIES IN NIGERIA

1951-52

